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STABILIZING BUSINESS

A SERIES OF ADDRESSES AND PAPERS PRESENTED AT THE SEMI-ANNUAL
MEETING OF THE ACADEMY OF POLITICAL SCIENCE IN THE
CITY OF NEW YORK, APRIL 8, 1927

EDITED BY
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PREFACE

SEMI-ANNUAL MEETING (FORTY-SEVENTH YEAR) OF THE
ACADEMY OF POLITICAL SCIENCE, NEW YORK CITY,
FRIDAY, APRIL 8, 1927

PUBLIC Spending and Private Business was the general topic for consideration at the National Conference called to meet at the Hotel Astor in New York City on April 8th, 1927, which constituted the Semi-Annual Meeting of the Academy.

The addresses and papers presented at the Conference are published in this volume, together with a paper on "State and Municipal Borrowing in Relation to the Business Cycle," by Benjamin M. Anderson, Jr., Economist, Chase National Bank, New York City, read by title at the second session.

The briefer title "Stabilizing Business" has been given to this collection of papers because it emphasizes perhaps better the central connecting thought which gave unity to all of the studies, problems and sub-topics considered and discussed throughout the three sessions of the Conference. Some slight rearrangement of the papers as here presented, for the sake of convenience and logical order, has been made by the Managing Editor of The Proceedings. The grouping and the subtitles of the different sections of the program, and even the revised titles of some of the individual contributions, do not, therefore, correspond exactly with the announcement of the program at the time of the Conference.

The original purpose of the Committee on Program and Arrangements was more than justified by the high character of many of the papers presented at the Meeting. The fundamental idea underlying the development of the program was to examine the newer phases of consumer purchasing power which one of the expert members of the Committee, thoroughly familiar with the results of investigation in this field, expressed his belief had never been treated at a single gathering of equal importance in as striking and original a way. It involved, as

this same member said, "generous pioneering and required some degree of faith and courage." While the Meeting was not by any means as popular as many which the Academy has held, and the attendance, therefore, not as large as on many previous occasions, the excellence of the program in the opinion of those best qualified to judge was such that the Academy felt amply repaid for carrying out a discussion following logically the subject matter of the previous Annual Meeting, which dealt with "Installment Purchasing," "The Better Economic Organization of Agriculture", and also "The Prospects of Industrial Civilization."

Probably few occasions have brought out a more substantial and satisfactory contribution to a major subject of inquiry in the domain of economics and public policy than the group of papers and their discussion which appear in Part 1, on "Purchasing Power and Business Stability." Part 2 on "Some International Aspects of Business Stability" and Part 3 on "Government Expenditures and Business Stability" are only a little less striking in the novel and constructive results which these respective groups of papers present, and Part 4 on "The Federal Reserve System and Business Stability" is more than a noteworthy evaluation of the Federal Reserve System in the revolutionary changes it has brought about in American business, and in the part it has played in our national prosperity and stability.

It would be unpardonable for the Chairman of the Committee on Program and Arrangements not to record the fact that we are under heavy obligations to many members of this Committee as well as to the speakers and those who took part in the discussion at the sessions of the Semi-Annual Meeting. The thanks of the officers and members of the Academy are hereby expressed cheerfully and heartily.

A brief "Who's Who" of those who participated in the Conference, and of some of those who took part in the discussion is given in order to enable the reader of this volume to know something of the background and reasons for the various opinions expressed by the different contributors.

DR. BENJAMIN M. ANDERSON, JR., Economist, Chase National Bank, New York City, since 1920. Assistant Professor of Economics, Harvard University, 1913-18; Instructor

and Assistant Professor of Economics at Columbia University, 1911-13; Author of *Social Value* (1911); *The Value of Money* (1917); *Effects of the War on Money, Credit and Banking in France and the United States* (1919); Editor, *Chase Economic Bulletin*. Frequent contributor to current periodical economic literature.

DR. WARREN RANDOLPH BURGESS, born Newport R. I. in 1889; A. B., Brown University, 1912; A. M. McGill University, 1915; Ph. D. Columbia University, 1920. With Federal Reserve Bank of New York since 1920, as editor of *Monthly Review of Credit and Business Conditions*, and since 1923 as Assistant Federal Reserve Agent. Military Statistician, Council of National Defense, War Department, 1917-19; Assistant Director, Division of Statistics, War Industries Board, and Statistician with title of Major; member of General Staff with House mission to France and England. Author of *Trends of School Costs* (1920) and numerous articles on statistical and financial subjects in current economic literature.

HON. J. HERBERT CASE, Banker, New York City. Formerly Vice President, Farmers Loan & Trust Company, and now Deputy Governor of the Federal Reserve Bank of New York. Sometime Acting Governor of the Federal Reserve Bank of New York, with which he has been connected for many years.

MR. STUART CHASE is a graduate of Harvard College and of the Massachusetts Institute of Technology; a writer and expert on problems of labor and industry; a member of the American Institute of Accountants, and formerly a partner in the firm of Harvey S. Chase Company, certified public accountants, Boston. Author of *The Tragedy of Waste* (1925); a frequent contributor to current periodical literature. He investigated the meat-packing industry under the Federal Trade Commission, 1917-22, and has been associated with the Labor Bureau, Inc., since 1922.

MR. WALLACE CLARK, 50 West 12th Street, New York City, Consulting Management Engineer, has been actively connected with the work of the American Engineering Council of the Federated American Engineering Societies, and has recently served as Industrial Engineer of the Finance Commission to Poland, of which Professor E. W. Kemmerer of Princeton University was Chairman.

MR. VICTOR M. CUTTER is a graduate of Dartmouth College (1903) and of The Tuck School of Administration and Finance, of Dartmouth College (1904). He is President of the United Fruit Company, 1 Federal Street, Boston, Mass., of the Revere Sugar Refining Company, Elders & Fyffes, Ltd., Fruit Dispatch Co., Tela R. R. Co., Truxillo R. R. Co., Northern R. R. Co., Tropical Radio Telegraph Co., and a Director of the New England Mutual Life Insurance Co. During the World War he was a member of the Caribbean Commission of the United States Shipping Board. He has been a pioneer in the organization and development of the largest corporation in the fruit business in the world, and is an outstanding authority on our trade relations with Latin America.

DR. PAUL H. DOUGLAS, Professor of Industrial Relations in the University of Chicago, is the author of *Wages and the Family* and *The Workers in Modern Economic Society*. Dr. Douglas is widely and favorably known for his many investigations and publications dealing with the industrial organization of modern society and the wages and standard of living problems.

HON. FRANKLIN W. FORT is Congressman from the 9th District, Essex County, New Jersey. He is a son of former Governor Fort of New Jersey, is a graduate of Princeton University and of the New York Law School. He was for many years a member of the law firm of MacLear & Fort, later Fort & Fort of Newark, N. J. He has been prominently identified with large industrial and insurance corporations, and was a member of the U. S. Food Administration during the War. He is author of a compilation of the labor laws of New Jersey, and has taken a prominent part in leadership and study of the development of public policy with respect to the agricultural situation.

HON. WILLIAM R. GREEN is Congressman of the 9th District of Iowa. He was formerly Judge of the 15th Judicial District of Iowa and since 1911 has been a member of the House of Representatives and now Chairman of the Committee on Ways and Means. Mr. Green is a graduate of Oberlin College, is a lawyer of distinction, an authority on tariff and taxation problems, and is the author of *Tariff Facts and Fallacies* published in the *Saturday Evening Post*.

MR. EDWIN O. GRIFFENHAGEN is a graduate of the Armour Institute of Technology and is President and Director of the staff of Griffenhagen & Associates, Ltd., 115 East Superior Street, Chicago, Ill. Mr. Griffenhagen has had experience as a Mining Engineer and in the Bridge Building Department of the Chicago, Milwaukee & St. Paul R. R. Co.; also as Architectural Engineer for the City of Chicago; as head of the Industrial Engineering Department of Arthur Young & Co., Chicago and New York, 1911-19; in the reorganization of numerous corporations and in the public engineering work of states and cities. He assisted in the reorganization of the Canadian Government Departments, 1918-21, and was Chief Counselor of the U. S. Congressional Commission on Re-classification of Salaries, 1920.

HON. WESLEY L. JONES, United States Senator from the State of Washington, is a graduate of Southern Illinois College. He served as a member of Congress, 1899-1909, and has been Senator since 1909. Senator Jones is just entering upon his fourth term of service in the Senate, and is Chairman of the Committee on Commerce and a member of the Committee on Appropriations. He has been an active leader in matters pertaining to commerce, shipping and governmental expenditure.

COMMANDER HUGO W. KOEHLER, of the Naval War College, Newport, R. I., has had a varied experience in the diplomatic service of the United States as Naval Attaché, and has been connected with special missions in many countries.

MR. OTTO T. MALLERY, a graduate of Princeton University, who has pursued postgraduate studies at the University of Pennsylvania and at Columbia University, is now located at 112 South 16th Street, Philadelphia, Pa. Mr. Mallery, who has been identified with many public welfare and social agencies, was at one time Field Secretary of the Playgrounds Association of Philadelphia, and Secretary of the Public Playgrounds Commission of Philadelphia; also, Secretary of the Board of Recreation of Philadelphia, 1912-15, and President of the same, 1915-16. He was a member of the Pennsylvania State Industrial Board, 1915-23; a member of the staff of the War Labor Policies Board, 1918; Executive Secretary of the Pennsylvania Emergency Public Works Commission, 1917-23;

a member of the President's Conference on Unemployment, 1921; and a member of the Commission on Seasonal Operations in the Construction Industries, 1923. He was joint author of *Business Cycles and Unemployment* (1923).

DR. WESLEY C. MITCHELL is Professor of Economics, Columbia University, and Director of Research of the National Bureau of Economic Research, New York City. Professor Mitchell was formerly Professor of Political Economy in the University of California, and is a former President of the American Economic Association. He is an outstanding authority and has written widely on money and prices, and has been a pioneer in productive research on the business cycle. He is the author of *A History of the Greenbacks* (1903); *Gold Prices and Wages Under the Greenback Standard* (1908); *Business Cycles* (1913); and editor of *History of Prices During the War; Business Cycles and Unemployment* (1923); and co-author of *Income in the United States—Its Amount and Distribution* (1921). He has a new book on *Business Cycles—the Problem and its Setting* in press.

DR. ERNEST M. PATTERSON is Professor of Economics in the University of Pennsylvania. He is widely known for his studies of economic conditions in Central Europe.

HON. WILLIAM L. RANSOM is a graduate of Cornell University and member of the law firm of Whitman, Ottinger & Ransom, 120 Broadway, New York City, since 1919. Judge Ransom was formerly Justice of the City Court of New York, 1914-17, and for some time Chief Counsel of the Public Service Commission, 1st District, New York. He is Chairman of the Board of Trustees of the Chautauqua Institution, a Trustee of the Academy of Political Science, and is a frequent contributor to current economic and legal periodical literature.

COL. MALCOLM C. RORTY, Engineer, is a graduate of Cornell University and was for some time associated with J. G. White Company and the New York Telephone Co. He was Engineer and Traffic Engineer with the American Bell Telephone Co., 1889-1903; General Superintendent, Traffic, etc., Central District Telephone Co., Pittsburgh, Pa., 1903-10; Commercial Engineer, American Telephone & Telegraph Co., 1910-13; Vice-President, Bell Telephone Securities Co., 1921-22; and President, International Telephone & Securities Corporation, and

Vice-President International Telephone & Telegraph Corporation, 41 Broad Street, New York City, since 1923. Col. Rorty served as Lt. Colonel, U. S. A., 1917-18, with Ordnance Department, General Staff, and was attached to the International Munitions Council.

DR. WOODLIEF THOMAS is associated with the Division of Research and Statistics of the Federal Reserve Board, Washington, D. C. He has had exceptional opportunity to study and observe the recorded experience of the Federal Reserve system and the economic trends of business and finance.

MR. L. W. WALLACE is Executive Secretary of the American Engineering Council, Washington, D. C. He is widely known in connection with the planning and direction of important investigations of the American Engineering Council, and has made noteworthy personal contributions to the more important reports of the Federated American Engineering Societies, especially those on *Waste in Industry*, and on *The Twelve Hour Shift in Industry*.

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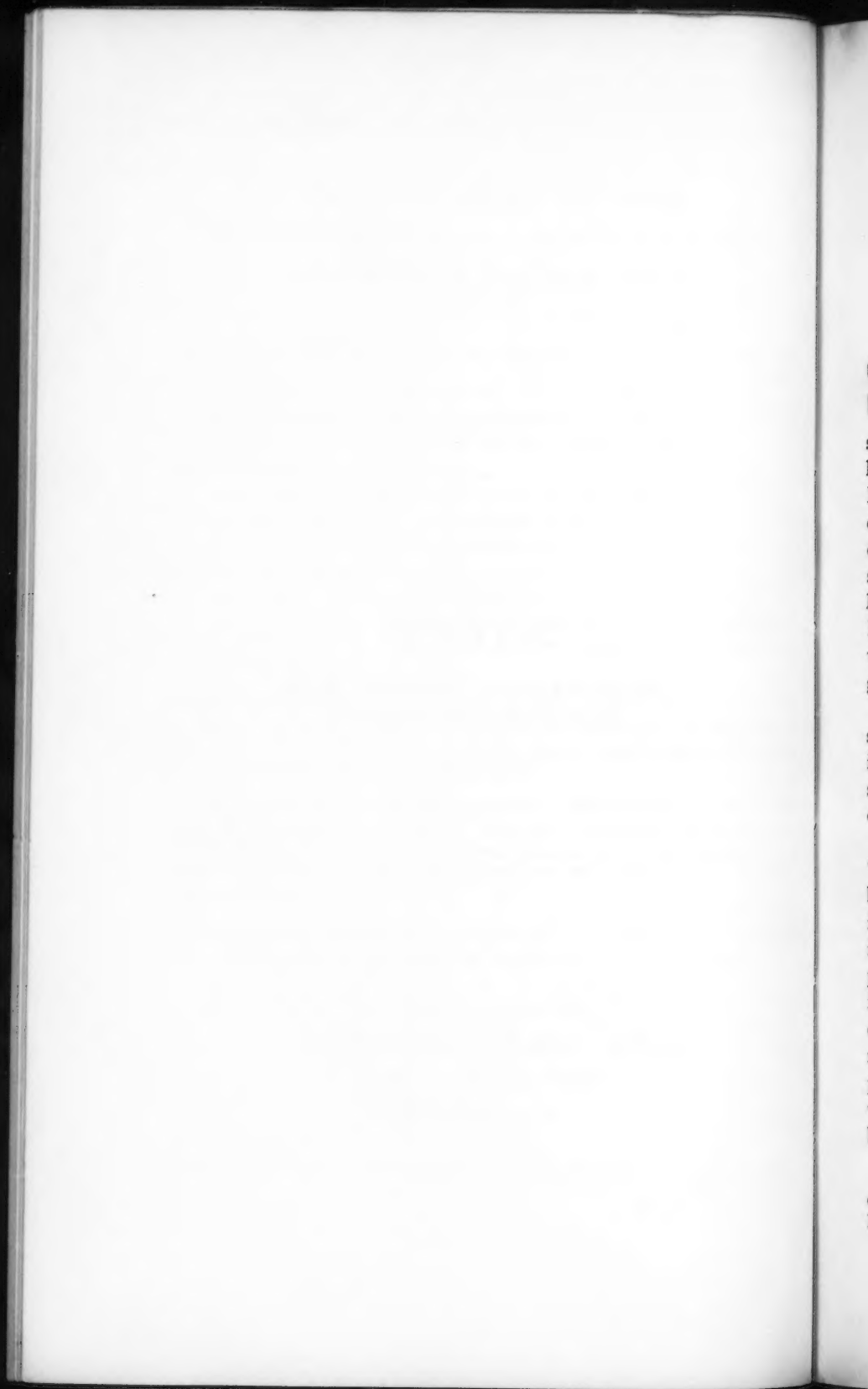
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PART I
PURCHASING POWER AND
BUSINESS STABILITY



THE PROBLEM OF BUSINESS INSTABILITY¹

WESLEY C. MITCHELL

Professor of Economics, Columbia University

SOcial changes in the past history of mankind have seldom been the results of conscious planning. For the most part they have come about from the clash of social and natural forces, the existence of which was but dimly known, and over which society exercised no conscious control. Even today our knowledge of the forces which are shaping our social destiny is elementary and uncertain. But there are daring souls who believe that by taking thought they and their successors may be able to achieve better understanding of human nature, of social institutions, and of the environment. If men can gain sufficient knowledge of themselves and of the world in which they live, they should become more able to guide social changes in the directions they desire.

The Academy of Political Science shares in this belief and strives to contribute toward realizing this ambition. Its part is to attack such problems as can be treated by the common-sense methods of science, hoping to acquire bit by bit the kind of social knowledge that is social power.

Our present session is devoted to an economic problem: "Plans for Stabilizing Business." In recent years much has been learned about the causes and consequences of business instability. Various plans have been put forward for mitigating the violence of seasonal and of cyclical fluctuations in the production and distribution of those goods which constitute our incomes. Nor are all of these plans mere paper schemes: certain of them are being tried in practice with an encouraging measure of success. Indeed, there are few cases in which the prospects of exercising a salutary social control over processes which touch the lives of every member of the community seem brighter than in this problem of stabilizing business.

¹ Remarks as Chairman of the morning session of the National Conference on Stabilizing Business, held by the Academy of Political Science at the Hotel Astor, April 8, 1927.

Nor are there many problems in which the common interest is so clear. Business instability is an evil both to the great majority of capitalists and to the great majority of employees. Whether we think of ourselves as producers or as consumers, as making money or as spending money, almost all of us would be better off if the uncertainties and hazards of business, which now loom so large, were diminished.

According to the best available estimates, the income of the American people shrinks by a quarter in periods of severe depression. That staggering loss is due to no natural cause and to no human obliquity. We must charge it against certain social institutions which we have gradually evolved and which we can change if we gain sufficient wisdom. The stakes for which we are playing exceed even the enormous values which I have suggested, because no estimates we can make take account of the disorganizing and demoralizing effect of recurrent depressions upon both business men and wage-earners. When we learn how to reduce appreciably the instability of business, we shall also raise the level which national income attains in prosperous years.

To canvass the current phases of this problem is the end we have in view. The several speakers will review the recent fluctuations of business and industry: they will discuss the partial successes which have been attained by stabilizing policies; they will consider plans for making further progress. What will be said is based upon patient observation and analysis of actual processes. From the discussion the Academy expects to develop no infallible cure for business instability. But we do believe that we shall gain clearer understanding of the problem, and thereby make ourselves more efficient in our future efforts to promote stabilization, whether as students or as practitioners.

THE GROWTH OF PRODUCTION AND THE RISING STANDARD OF LIVING

WOODLIEF THOMAS

Division of Research and Statistics, Federal Reserve Board,
Washington, D. C.

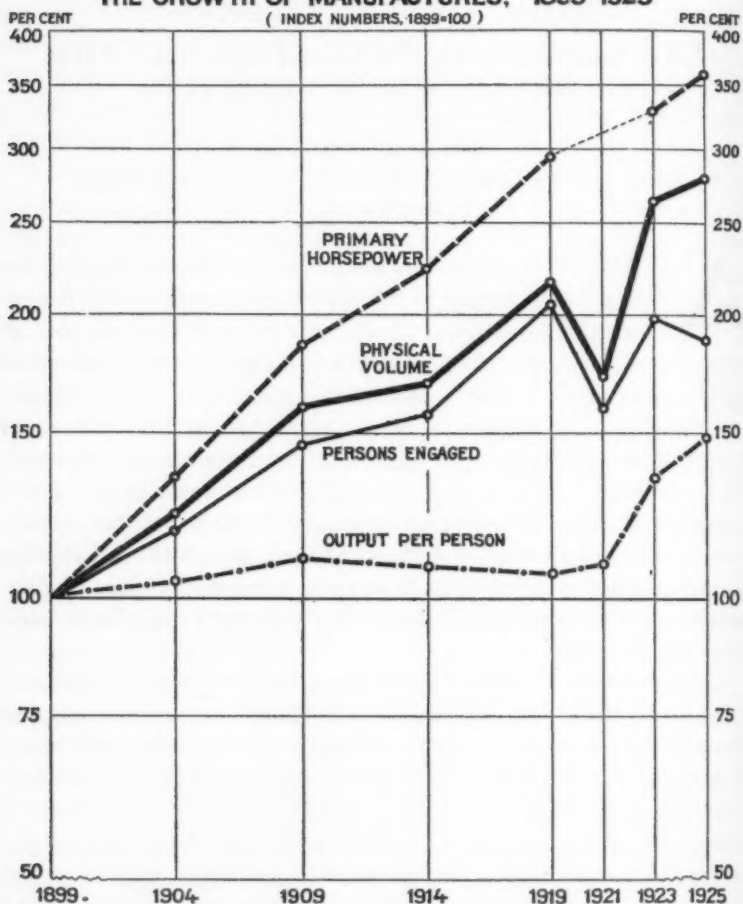
ACCORDING to estimates based on census figures, the physical quantity of manufactures produced by American factories increased by 178 per cent in the 26 years from 1899 to 1925, while additions to the number of persons engaged in these factories amounted to only 87 per cent—indicating a growth of 50 per cent in the output of manufactures per person. In the production of minerals the increase has been even more phenomenal and in agriculture remarkable improvements in technique have permitted a substantial growth in output without an increase in the utilization of man-power. In the post-war period these increases in production per worker, particularly in manufacturing, have been especially notable.

These statements raise interesting and important questions concerning the trend of industrial development with respect to types of goods produced, inter-industry relationships, the effect on wages, profits, and prices, on the balance between production and consumption, and on so-called standards of living. Answers to these questions, if obtainable, may throw some light on the fluctuations of the business cycle, and especially upon the recent state of affairs in which business volumes have continued to increase, with minor fluctuations from year to year, while prices have shown a tendency toward decline.

The facts as to what has actually happened in industry are not always clear and their interpretation is subject to a wide range of variation depending upon the observer's viewpoint, but a few developments have been sufficiently pronounced to provide a basis for analysis. The accompanying charts illustrate a number of recent developments.

The first chart shows the growth by census years from 1899 to 1925 in the physical volume of manufactures produced,

THE GROWTH OF MANUFACTURES, 1899-1925



in number of persons engaged in manufacturing, in primary horsepower installed in factories, and in output per person engaged. Figures from which the chart is drawn are given in Table I. The production index has been computed from the physical quantity statistics provided by the census of manufactures. The number of persons engaged in manufacturing includes proprietors, firm members, and salaried employees, as well as wage-earners. Some of the increase in production per wage-earner has been effected by enlarging the force of salaried employees—by cost accountants, technicians, research men, and

experts of various sorts. The horsepower data give "the rated horsepower of all engines, motors, etc., which serve as primary power machines in the establishments reporting." The percentages of increase shown on the chart for persons engaged and for horsepower are derived from totals for all manufacturing industries, but the production index covers only those industries for which physical quantity statistics are available—about fifty per cent of the total. The industries included, however, are of such a basic nature that they indirectly represent a large number of other industries, and tests indicate that for manufacturing as a whole the composite index is a fairly adequate representation, with probably some understatement of the

TABLE I. THE GROWTH OF MANUFACTURES, 1899-1925

[INDEX NUMBERS, 1899=100]

<i>Year</i>	<i>Physical volume</i>	<i>Number of persons engaged</i>	<i>Primary horsepower installed</i>	<i>Production per person</i>
1899	100	100	100	100
1904	122.1	117.5	133.6	104.0
1909	159.1	145.1	185.0	109.7
1914	169.0	156.2	222.3	108.1
1919	216.5	204.3	292.2	106.0
1921	171.6	158.1	—	108.6
1923	263.4	196.7	329.8	133.9
1925	278.4	186.9	356.1	148.9

growth which has actually taken place, because the index can not satisfactorily make allowances for improvements in quality of goods produced. This index and a large portion of the other data presented in this paper are taken from a census monograph, soon to be published, on the growth of manufactures, prepared by Professor Edmund E. Day with the speaker's assistance.

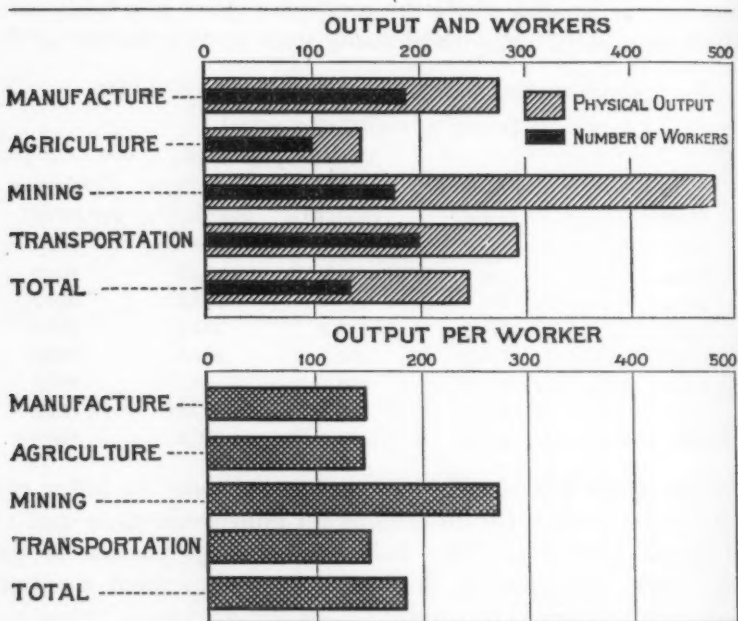
The figures show a steady expansion from 1899 to 1925, with some retardation of the rate of increase in 1914, a year of moderate depression, and a sharp drop in 1921, a year of extreme depression. The growth in physical quantity of manufactures has been at the average rate of four per cent per year, the same rate applying to the first decade from 1899 to 1909 and to the period following from 1909 to 1925. Production per person engaged increased in the twenty-six

years by nearly fifty per cent. Primary horsepower installed showed a total increase for the period of 256 per cent, giving a decrease in production per unit of horsepower of twenty-two per cent. The more rapid growth in horsepower and the less rapid increase in persons engaged than in quantity output illustrates the substitution of machinery for labor in production.

Developments since 1919 have been particularly remarkable.

GROWTH IN PRODUCTION PER WORKER, 1899-1925

(INDEX NUMBERS FOR 1925 WITH 1899 EQUALING 100)



On the basis of census figures for 1919 and 1925 an increase of nearly twenty-nine per cent in quantity manufactured is indicated, while the total number of persons engaged in manufacturing decreased by nearly nine per cent and the addition to primary horsepower installed was only twenty-two per cent. The year 1919 was one of notoriously inefficient industry because of post-war readjustments then in process. The next preceding census year, 1914, was characterized by depression, and output per wage earner was temporarily reduced. There-

fore 1909 seems to be the most recent census year unaffected by any unusual influence of great importance. From 1909 to 1925 physical production increased by seventy-five per cent, the number of persons engaged by nearly thirty per cent, and primary horsepower by over ninety per cent. There was an increase in output per person, all of which has been brought about in the past five years, of thirty-six per cent, or at the rate of 1.9 per cent a year, which is twice as large as the average increase in the period from 1899 to 1909.

Estimates of increases since 1899 in output per worker in mining, agriculture, transportation, and for all these types of

TABLE 2. GENERAL INDEXES OF PRODUCTION AND WORKERS, 1899-1925

	Workers (000)			Index 1925 (1899=100)		Value of output	
	1899	1925	Index for 1925 (1899 =100)	Quantita- tive index of output	Output per worker	1899	1925
Agriculture.....	10,500	10,500	100	145	145	3,500	12,400
Mining	600	1,065	177	480	271	600	4,300
Manufactures....	5,200	9,772	187	278	149	4,830	26,800
Transportation (Railway)....	929	1,846	198.5	293	148	1,300	5,620
Total or Average (Round figures)	17,200	23,200	135	247 ¹	183 ²	10,230	49,120

production combined, as shown in the second chart and Table 2, were made by Dr. E. Dana Durand of the Department of Commerce. Although the quantitative output of farm products has increased about forty-five per cent since 1899, the number

¹ Computed by giving the above percentages weights according to the relative importance of the several branches in 1899, as determined by value of product.

² Obtained by dividing the average index of increase in output (247) by the actual ratio of total workers in 1925 to the total in 1899 (137). The figure exceeds the weighted average of the indexes of output per worker in the several branches, because the increase in number of workers between 1899 and 1925 was confined to branches in which the average value of output per worker is greater than it is in agriculture.

of persons gainfully employed in agriculture has shown no appreciable change, and consequently the gain in output per person is indicated by growth in total output. This gain in agriculture almost equals that estimated for manufacturing and for transportation in the same period. Mineral production per worker in 1925 was nearly three times as great as in 1899, reflecting the influence of the substitution of machinery and power for labor. A good part of the large increase in output of minerals per person was caused by growth of petroleum production, which requires little labor, rather than by any substantial changes in individual industries, although examples of these are not entirely lacking.

The total volume of production of the farm, the mine, and the factory, and of the service of transportation in 1925, was nearly two and one-half times as large as in 1899, while the number of workers increased by only about one-third. Comparison of these two figures indicates a gain in the quantity of output per worker of eighty-three per cent for the entire period.

The causes of the growth in output per person, as given by various observers, may be briefly enumerated. First are those which operate in individual industries and plants, and the most important of these, of course, is the increasing use of machinery, whereby power is substituted for labor. There have also been significant economies in the use of power. Witness, for example, the growth in the consumption of electric power, which is generally more efficient than other forms, and the substitution of oil for coal. Large-scale operations and mass production resulting from the mechanization of production and the willingness of American people to accept standardized articles have aided in increasing the productivity of industry. Among other factors are labor-saving methods and devices of various sorts introduced into factories, elimination of waste, and the careful planning of production in respect to fluctuations of general business.

The growth, however, has been due not only to larger output per person in individual industries but also to developments within the industrial system as a whole, caused by the shifting of enterprise from industries requiring a great deal of labor to those which make most use of machinery and power, and by the rise of entirely new industries which depend chiefly upon the

machine process. Evidences of these changes are numerous: petroleum for coal in mining; cement for brick, stone, and lumber in building construction; bakers' bread for the home-made product; and the growth of the highly mechanized automobile industry—these are a few illustrations. Later the growth of

TABLE 3. INDEXES OF GROWTH BY GROUPS OF MANUFACTURING INDUSTRIES, 1899 TO 1923 AND 1919 TO 1923

	1899=100			1919=100		
	Phys- ical volume	Wage- earners	Output per wage- earner	Phys- ical volume	Wage- earners	Output per wage- earner
All groups	263.4	188.2	140.0	121.7	97.5	124.8
Iron and steel and man- ufactures	303.7	205.1	148.1	131.2	96.4	136.1
Non-ferrous metals and their products	400.3	203.5	196.7	125.7	96.8	129.9
Chemicals and allied pro- ducts	417.9	206.4	202.5	126.2	95.0	132.8
Stone, clay and glass pro- ducts	231.2	150.3	153.8	155.6	116.6	133.4
Lumber and manufac- tures	101.3	135.5	74.8	110.1	108.5	101.5
Paper and printing	374.6	179.2	209.0	137.1	105.0	130.6
Textiles and products	202.5	167.1	121.2	122.9	106.7	115.2
Leather and products	151.3	138.8	109.0	105.6	98.8	106.9
Food and kindred pro- ducts	210.6	208.2	101.2	111.6	91.8	121.6
Tobacco	237.1	111.9	211.9	109.8	94.4	116.3
Vehicles for land trans- portation	3,618.0	348.3	1,038.8	180.9	108.2	167.2

production in individual industries will be discussed and it should be noted that those industries of increasing importance and those new industries which have come into prominence are characterized by a highly mechanized process of production or are used in furthering mechanization of other industries, whereas those showing less rapid growth are relatively more dependent upon labor.

In determining the effect of these changes in production upon consumers' living standards it must be demonstrated not only that the quantity of goods produced per person engaged in production has increased, but also that, as a result of this increase in the efficiency of productive enterprise, the per-capita

supply of goods that are used by consumers and go to promote individual welfare has been made more abundant and relatively cheaper, in other words, that the output of consumers' goods has increased. Has industry simply transferred workers from direct production of products to the making of machines by which the same products can be made with a smaller direct utilization of labor? Or has a real gain to the consumer grown out of the process? An investigation of the growth of production and of the kinds of products sharing in this growth throws some light on this point.

It is impossible here to present the facts of growth in all industries, and therefore figures for only the principal manufacturing groups, according to census classification, and for certain industries in which the largest increases have occurred, are presented in Tables 3 and 4. References, however, will be made to outstanding cases among the various industries and products. The data by groups in the tables, it will be noted, extend only to 1923, as 1925 figures in detail are not yet available. The principal tendencies noted, however, showed little change in the two years from 1923 to 1925. The three sets of data given in the tables—physical output, number of wage-earners, and primary horsepower—are here presented as evidences of the relative growth of the various groups rather than for the purpose of comparing output with the number of workers and utilization of power. Although it is believed that the production index is a reliable measure of changes in output for manufactures as a whole and for a number of individual industries, yet in a few groups, owing to limitations of data, the index is not typical of the entire group represented. This is undoubtedly true of wood products and probably of the food and the paper and printing groups. Phenomenal gains in output per person have occurred in a number of individual industries and are pertinent to this inquiry, in so far as they have been a factor in the shifting importance of different industries, but the data presented here are not in all cases adequate for a discussion of increased productivity by industries.

Available evidence, partly shown in the tables and partly taken from more detailed records, indicates that the largest increases in production have occurred in two different types of industries—

TABLE 4. GROWTH OF SELECTED INDUSTRIES, 1899 TO 1923

	Percentage of increase in		
	Physical volume of production	Wage- earners	Horse- power
<i>I. Luxuries</i>			
Automobiles, plus bodies and parts	68,600.0	17,967.2	27,301.5
Phonographs .....	....	1,518.6	3,705.2
Photographic equipment and supplies ..	....	836.4	2,354.7
Silk goods	259.7	91.5	265.4
Confectionery and ice cream .....	....	232.2	1,282.3
Food preparations, n. e. s. ....	....	220.9	1,054.5
<i>Producers' goods</i>			
Iron and steel (industry)	203.7	105.1	308.8
Non-ferrous metals (group)	300.3	103.5	467.5
Petroleum refining	888.1	446.9	982.5
Foundries and machine shops .....	....	100.0	375.0
<i>III. Labor-saving devices</i>			
Electrical machinery, apparatus and supplies .....	....	459.1	1,001.3
Steam fitting and heating apparatus ....	....	377.0	1,299.8
Cash registers and calculating machines.	....	624.4	2,130.3
Typewriters and supplies .....	....	245.1	404.4
<i>IV. Mechanized consumption goods</i>			
Canning and preserving, fruits and vegetables	415.0	56.7	417.3
Butter, cheese and condensed milk	260.0	164.8	123.7
Bread and bakery products .....	....	172.4	761.1
Millinery and lace goods .....	....	224.6	750.6

(1) The most striking increases were in those industries manufacturing goods which are devoted to recreation and diversion or which have brought about radical changes in manners of living—in many cases so-called luxury goods, which have become, in fact, necessities. Familiar examples, in which percentages of increase run into four and five figures, are the automobile and its related products, gasoline and tires, and also phonographic equipment and supplies, silk goods, confectionery, ice cream, cigarettes, and, in recent years, rayon and radios.

(2) The second group of industries showing outstanding increases are those making so-called producers' goods—industrial machinery and equipment, manufactured fuels, and materials for further production. Examples are iron and steel, non-ferrous metals, machinery, petroleum, refining, and by-product

coke. The expansion of these industries reflects, and also facilitates, the growth in the first group and likewise the increasing mechanization of production which has taken place in nearly all industries.

A set of industries which have expanded rapidly and which are something of a cross between the two groups mentioned are those which provide labor-saving devices for office and home, as well as for the factory—electrical appliances, typewriters, calculating machines, cash registers, heating apparatus, and, to some extent, automobiles as well.

Other examples of growth of industries which contribute to the saving of time and effort for individual members of society are found in the mechanization of the production of staple consumption goods. An appreciable increase in the consumption of staple articles of food and clothing is not to be expected—in fact it is undoubtedly true that the clothing requirements for women, measured in bulk per capita, have diminished considerably during the last quarter-century. The production of flour per capita has apparently decreased since the beginning of the century and the output of leather and products has about kept pace with the increase in population. But the character of goods consumed and the methods of producing consumers' goods have changed, for in a number of cases production has been transferred from the home to the factory. Outstanding examples are manufactured dairy products, canning and preserving, and the manufacture of millinery goods.

The phenomenal increases in the manufacture of goods used by consumers to provide recreation and diversion and to satisfy other desires which may not be considered by moralists as necessary to existence, the growth in the output of labor-saving devices for use in office and home, and the expanding factory production of staple articles of food and clothing formerly produced by individuals with much labor, all indicate that living conditions of the American people have been broadened. The growth in the production of producers' goods has been a necessary accompaniment of the other—supplying the machinery, equipment, and materials necessary and facilitating improvements in technique. The increase in production has been aided by the greater efficiency of enterprise which has been brought about by means of individual efforts in the intro-

duction of labor-saving devices, in the elimination of waste, in the more effective utilization of power, and in the exercise of other economies through large-scale production of standardized articles, by the shift in production from industries requiring a large labor supply to those using machinery more extensively, and by means of many other factors such as improved railroad facilities and the greater exchange and use of business information. This increase has occurred in agriculture, mining, manufacturing, and transportation and is evidenced by a larger output per worker and by economies in the utilization of power. And if Mr. Stuart Chase's estimate, that 20,000,000 units of man-power are idle or misused out of an able-bodied working population of some 40,000,000, is anywhere near accurate, industry has not yet begun to be efficient.

No reference has been made to wages, costs, profits, and prices, because, although they are important aspects of the relationship between production and living standards, it was intended that this paper be confined chiefly to quantitative comparisons. It may be stated briefly, however, that, according to census figures, annual wages per worker have steadily increased in each inter-censal period, and total wages have borne a fairly constant relation to total value of product and to value added by manufacture—i. e., the labor share of production has remained constant. In recent years, however, some decrease in the proportion of wages to value added by manufacture has been noted, particularly between 1923 and 1925, indicating a reduction in total labor cost, although not in wages per worker.

It would be expected that an increase in output per worker, if accompanied by no corresponding increase in wages and other costs, would bring about a reduction in prices. The limited amount of information available as to prices of manufactured commodities indicates that they have declined since 1923. Most of the manufactured commodities in the Bureau of Labor Statistics wholesale price index, except food products which are affected largely by the agricultural situation, were lower in 1925 than in 1923, and a number were lower than in 1922. Since 1925 prices have declined steadily, the indexes for clothing materials and housefurnishings have reached new post-war low points, and those for metals, chemicals and drugs,

and the manufactured fuels are close to the low levels of 1922. Reductions in prices of automobiles, accompanying improvements in quality, are well known.

The business community has not yet become accustomed to the far-reaching changes in relationships within the industrial structure caused by the greater production per person, the resulting expansion in the consumptive capacity of the population, and the growth of new industries making products formerly considered unnecessary. One group of observers views with alarm consumers' expenditures on automobiles and so-called luxury goods, and another wonders when the large investment of savings in new building and equipment will result in overproduction. There is a limit to the amount of staple products of consumption that may be used; therefore any growth in consumers' capacity must be reflected in demands for new products; and the production of these new products must require larger capital equipment. This in brief is what analysis of the recent growth of production indicates has occurred.

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THE MODERN TECHNIQUE OF MASS PRODUCTION AND ITS RELATION TO WAGES

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1. *The Recent Increase in Physical Productivity*

THE past six years have witnessed in this country the most extraordinary increase in per capita productivity in manufacturing and mining which has probably ever occurred in a similar space of time.¹ During the twenty years from 1899 to 1919 the volume of physical production in this country of manufactured goods, as Professor E. E. Day and Mr. Thomas will show in their forthcoming study, increased by 116 per cent. The relative number of wage-earners in manufacturing increased during this period by 93 per cent, making the per capita increase one of 12 per cent. But since modern manufacturing methods called in 1919 for almost twice as many office and clerical employees for every hundred wage-earners as in 1899, the total number of employees increased by 108 per cent. Thus if both clerical and manual workers are taken into account, the increase in per capita productivity was but 4 per cent. The following table shows the relative movement of physical production and output per wage-earner and per employee in the various census years during this period.² Down to 1914 and even to 1919 therefore, the American manufacturing system under capitalism had not shown any appreciable increase in efficiency of production. During the fifteen years from 1899 to 1914, output per employee had gone up at slightly less than one-half of one per cent per year. During this period moreover, the average real earnings of employed workers in manufacturing had not advanced.³ It

¹ This material on the increase in productivity was prepared before the writer knew that Mr. Thomas was to read a paper specifically dealing with this subject.

² I am indebted to Professor E. E. Day for the statistics given.

³ See my paper, "The Recent Movement of Real Wages and Its Economic Significance," *Proceedings 38th Annual Meeting American Economic Association*. (Supplement, *American Economic Review*), March, 1926, esp. pp. 33-37.

TABLE I. TOTAL RELATIVE PHYSICAL PRODUCTIVITY IN MANUFACTURING INDUSTRIES AND RELATIVE OUTPUT PER WAGE-EARNER AND PER EMPLOYEE. (1899-100)

Year	Relative physical output in manufacturing. (Day-Thomas ² Index)	Relative number wage-earners employed	Relative output per wage-earner	Relative number total employees (wage-earners plus salaried employees)	Relative output per employee
1899	100	100	100	100	100
1904	122	116	105	118	103
1909	159	140	114	146	109
1914	169	149	114	158	107
1919	216	193	112	208	104

was not at all certain that capitalism, when judged from the standpoint of productive efficiency and of improving the lot of its workers, had really made good. Nor was the situation much improved in the first of these respects in 1919. The physical output per worker was actually three per cent lower in this year than it had been in 1914 and although the average real earnings were higher, this was rather because of an increase in the relative exchange value of the average output in manufacturing and not because of an increase in its physical quantity.

It has been therefore, since 1919 and more particularly since 1921 that our great increase in physical productivity and in real earnings has come. This is shown by the indexes of production of the Federal Reserve Board,¹ of Day and Thomas,² and of the Harvard Economic Service.³ These are given below.

It will be noticed that the indexes of the Federal Reserve Board and of Day and Thomas agree closely for the period which they have in common while the Harvard index from 1922 on runs somewhat higher. On the whole it seems safest to use the Federal Reserve index as probably the best measure-

¹ See *Federal Reserve Bulletin*, March, 1927, pp. 175-177.

² In their forthcoming monograph for the Census Bureau.

³ Ada M. Mathews, "Physical Volume of Production in 1924," *Review of Economic Statistics*, Vol. VII (1925), p. 215; *ibid.*, Vol. VIII (1926), pp. 144-52; *ibid.*, Vol. IX (1927), pp. 14-15.

TABLE 2. INDEXES OF PRODUCTION IN MANUFACTURING
1919-1926 (1919=100)

Year	Fed. Reserve Board	Day- Thomas	Harvard
1919	100	100	100
1920	102		106
1921	79	80	82
1922	103		110
1923	120	122	130
1924	112		120
1925	125		133
1926	129		

ment of the movement of production since it includes¹ (when combined with the mining index) "nearly 80 per cent of the total industrial production in the United States."

The above statistics however give us only the relative total productivity, whereas we are also interested in knowing the relative productivity per wage-earner and per employee.

The relative number of wage-earners and of all employees in manufacturing in 1921 and 1923 as compared with 1919 and the consequent indexes of productivity per worker run as follows:

Year	Relative number of wage-earners	Relative output per wage-earner	Relative number of employees	Relative output per employee
1921	76	104	76	104
1923	97 ²	124	96	125

In 1923, therefore three per cent fewer wage-earners and four per cent fewer employees produced twenty per cent more physical product. This was an increase per worker of 24 and 25 per cent respectively. Five-sixths of this increase had occurred since 1921.

The Census Bureau has just published its tentative summary of the census of manufactures of 1925 which shows the average

¹ *Federal Reserve Bulletin*, February, 1927, p. 100.

² The Federal Reserve Board's index of employment which gives 4 per cent more employment in 1923 than in 1919 (*Federal Reserve Bulletin*, February, 1927, p. 111) seems almost surely to be in error on this point. The Census of Manufactures for 1923 shows 8.73 million wage-earners as compared with 9.0 millions in 1919. This would be a decrease of 3 per cent.

number of wage-earners to be 8.38 millions¹ as compared with 8.77 millions in 1923 and 8.99 millions in 1919. This was therefore five per cent less than the number employed in 1923 and seven per cent less than in 1919. This indicates that the index of employment compiled by the Bureau of Labor Statistics, which showed a nine per cent drop in employment for 1925 as contrasted with 1923, somewhat overstates the decline which has actually occurred in the volume of employment. The Bureau is probably correct, however, in showing the number employed in 1924 to have been one per cent less and those in 1926 one per cent more than the 1925 index.² This would mean that if we take the number employed in 1919 as 100, the relative number employed would be 97 in 1923, 92 in 1924, 93 in 1925, and 94 in 1926.

If we accept these figures for the relative number employed, this would mean that the relative average annual output per wage-earner as compared with 1919 was 122 in 1924, 134 in 1925, and 137 in 1926. Thus in seven years the output per worker increased by almost 40 per cent; eight-ninths of which was concentrated in the last five years. This increase in physical productivity at an average rate since 1921 of nearly seven per cent per year is probably unparalleled in the history of the world.

These statistics on the relative increase in productivity tend in the main to be confirmed by the investigations which the Bureau of Labor Statistics has made into the productive efficiency of eleven manufacturing industries. The relative total output in each industry in physical units has been divided by the relative number of total man-hours worked in that industry during each of the given years. From this an index of relative physical output per man-hour has been obtained. The movement for the eleven industries since 1914 is shown in

¹ See mimeographed summary issued by the Census Bureau.

² *Monthly Labor Review*, January, 1927, Vol. XXIV, p. 171. This greater drop may have been caused in part by the fact that the Bureau's index necessarily does not include: (1) new and rapidly developing industries such as the manufacture of rayon and of radio equipment and (2) new and developing factories within the established industries. The index covers well-established plants in well-established industries and these are probably not completely typical of all manufacturing industry as a whole.

TABLE 3. RELATIVE PRODUCTIVITY PER MAN HOUR IN ELEVEN INDUSTRIES, 1914-1925 (1914 = 100)

Year	Iron and steel	Boots and shoes	Leather tanning	Slaughtering and meat packing	Petroleum refining	Paper and pulp	Cement	Automobiles	Rubber	Flour milling	Cane sugar refining
1914	100	100	100	100	100	100	100	100	100	100	100
1919	100	105	101	93	92	104	103	136	130	96	79
1921	94	115	126	119	11	94	124	193	190	118	82
1922	136	116	130	125	126	118	...	249	...	...	...
1923	139	107	134	128	135	116	132	270	266	128	102
1924	137	107	131	129	163	128	143	262	301	...	114
1925	159	106	126	127	183	134	161	272	311	140	128

Table 3.¹ Save in the boot and shoe industry,² the increase in productivity per man-hour is in general greater than the per capita increases which we have previously computed. This is only to be expected since there has been an appreciable decline in the standard number of hours worked per week, so that if the yearly output per worker were to rise, the hourly output would have to rise even more.

Nor has the increase been confined to manufacturing alone, for the output per worker has also risen in the mining and transportation industries. Thus in mining, the index of total production since 1919 has been computed by the Federal Reserve Board to be as follows:³

Year	Index of Mining Production	Year	Index of Mining Production
1919	100	1923	135
1920	116	1924	125
1921	91	1925	129
1922	96	1926	138

The great improvement in the productive efficiency of the railroads during the last five years is evidence that the output per worker has also been advancing rapidly in transportation.

While the average productivity of the building workers has beyond doubt increased above the low figure of 1920, it is not at all certain that it has returned to the pre-war level. There have indeed probably been fewer advances in this line of industry than in any others. It has been possible, however, for the wages of the building workers to rise over their 1919 level be-

¹ *Monthly Labor Review*, January 1927 (Vol. XXIV), pp. 35-49; see also *ibid.*, July 1926, pp. 1-19; October 1926, pp. 10-21; November 1926, pp. 30-40; December 1926, pp. 30-40. Also Ewan Clague, "Productivity and Wages in the United States," *American Federationist*, March 1927 (Vol. XXXIV), pp. 285-296.

² The failure of the boot and shoe industry to show a larger increase was doubtless caused by the multiplication of styles in the trade. The output of standard makes has beyond question increased greatly as is shown by *Bulletin* 360 of the Bureau of Labor Statistics. Thus in 1895, 236.1 hours were required to produce 100 pairs of shoes of a given make while in 1916 only 142.7 hours and in 1923 106.9 hours were needed. This would be an increase for 1923 over 1895 of 117 per cent and of 33 per cent over 1916.

³ *Federal Reserve Bulletin*, March 1927, pp. 175-77.

cause the value of each unit of their work has increased, even though its quantity may not have done so.

The increase in productivity should not blind us to the fact that there has probably been an increase in unemployment during this period. The index of employment for manufacturing as stated shows four per cent fewer workers in 1926 than in 1923, and in turn three per cent fewer men in 1923 than in 1919. To this apparent decrease of seven per cent, moreover, there should be added the increased number of persons who would naturally be expected to seek manufacturing employment, because of (1) the oncoming age-groups and (2) the effect of the agricultural depression in forcing from the soil several hundred thousands of agricultural workers. As the population has been growing at the rate of approximately two per cent per year, if manufactures were to continue to employ the same percentage of the population as in 1919, one would expect to find about a million and a quarter more employees rather than between five and six hundred thousand less. When the agricultural workers are considered, it is apparent that there are well over two million workers who are not employed in manufacturing, agriculture, or railroad transportation, whose industrial whereabouts are unknown. It would, of course, be wrong to imply that these groups must be unemployed, since a great many have been absorbed in such occupations as the building industry and the construction of our highways, upon the latter of which we are expending close to a billion dollars a year, and in such service trades as garage-keeping, filling stations, etc. But even after making all such allowances the evidence from public employment agencies and from charitable organizations seems undeniably to indicate that there is a rather high percentage of unemployment and of short-time in the country. The lot of these unemployed is not happy, although interestingly enough their presence and their competition with those employed has not operated to reduce the wage-rates.¹ Despite this unemployment however, and despite the unprosperous condition of certain specific industries, such as the northern textile mills, the country as a whole has prospered greatly during the last five years. This is also

¹ Nor has the high percentage of unemployment done so in England. This is a subject which well merits further research.

demonstrated by the estimates which the National Bureau of Economic Research has made of the national income in recent years. This has amounted, in terms both of current and 1913 price levels, to the following figures.¹

TABLE 4. THE GROWTH OF THE NATIONAL INCOME, 1919-1926

<i>Year</i>	<i>Current dollars (in millions)</i>	<i>1913 dollars (in millions)</i>
1919	67,254	37,600
1920	74,158	36,300
1921	62,736	36,200
1922	65,567	40,400
1923	76,769	46,900
1924	79,365	48,400
1925	86,461	51,100
1926	89,682	52,900

When reduced to a per capita basis, the average income in the various years amounts to the following:²

AVERAGE PER CAPITA INCOME

<i>Year</i>	<i>Current dollars</i>	<i>1913 dollars</i>
1919	640	358
1920	697	341
1921	579	334
1922	597	369
1923	689	421
1924	700	426
1925	752	445
1926	770	455

Thus in units of constant purchasing power there has been a gain of \$97, or twenty-seven per cent, since 1919 and of \$121, or thirty-six per cent, since 1921. Since the real income of the farming class has beyond doubt decreased since 1919, this means that the gain for the industrial population has been even greater.

Most Europeans, smarting under the prospective burden of

¹ *News-Bulletin*, National Bureau of Economic Research, no. 23 (Feb. 21, 1927), p. 2.

² *Ibid.*, p. 3.

repaying their war debts to us, have ascribed this increase in our prosperity to the war, and have charged that we have fattened at their expense. This, of course, is an erroneous conception. Save for the relatively insignificant interest payments made by Great Britain, we have received virtually nothing in return for the nine billion dollars worth of credit which our government advanced to Europe for food and for other supplies. Secondly, as the above statistics clearly demonstrate, our increase in prosperity did not come with the war but really began to develop three years after its close. There are many ways in which America, to my mind, has fallen short of her international obligations during these last eight years, but she cannot legitimately be accused of prospering at the expense of others. Our prosperity has been caused by the extraordinary increase in production and not by the misery of those overseas.

2. The Causes for the Increase in Productivity

There have been three patent causes for the long-time increase in productivity plus a further imponderable one. These are: (1) the rapid increase in the supply of capital; (2) the rapid development of American technical methods, including, as its most notable feature, the moving conveyor; (3) the large internal market within which complete free trade prevails; and finally (4) the relative inability of workmen effectively to oppose changes in technique in our large-scale industries.

Our supply of industrial and commercial capital has increased with extraordinary rapidity. I have recently completed a tentative index of fixed physical capital in this country for the period 1880-1922 which eliminates changing price levels and any capitalization of earning power and which is instead based upon units of physical capital weighted by their values. The index covers farm buildings, farm machinery, livestock, manufacturing buildings, manufacturing machinery, railroads, street railroads, telegraph and telephone services and the electrical industry. Highways and commercial buildings are not at present included, although it is hoped to cover these in the future. In brief, the fixed capital in this country in 1922 seems to have been six and a half times larger than in 1880. This was an increase at the rate of five per

cent a year compounded, whereas Cassel estimates the growth of capital in Western Europe at only three per cent per annum. The population in this country, on the other hand, has been increasing at the rate of approximately only two per cent a year. This has caused the amount of capital per person to increase even more rapidly here, as compared with industrialized Europe, than would be indicated by the figures of growth in total capital alone. During these forty-two years, indeed, the number gainfully employed only doubled, causing the amount of capital per worker in 1922 to be approximately three and one-sixth times as great as in 1880.

It should also be remembered that there has been an appreciable shortening in the length of the standard working week, which according to my computation averaged in 1924 for approximately a dozen manufacturing and mining industries sixteen per cent less than the average of the 1890's. It seems safe therefore to estimate the decrease in the length of the working week since 1880 as at least twenty per cent. This would mean that although there were twice as many gainfully employed in 1922 as in 1880, approximately only sixty per cent more man-hours were expended. The amount of capital mixed with each man-hour of labor was therefore slightly over four times as much as in 1880. Such a rapid multiplication of capital has probably never before been witnessed.

The second factor which has contributed to our prosperity has been our development of automatic and efficient machinery and of effective technical processes. Probably the most distinctive contribution which we have made in this direction since Eli Whitney developed the principle of interchangeable parts is that of the moving conveyor. This was first applied on a large scale in the Chicago stockyards, where it was used to expedite the dismemberment of a raw product into a multitude of parts. It has been taken over and developed by a large number of other industries and has reached the height of its efficiency in the automobile factories. Here it reverses the stockyard process and assembles from a multitude of parts a finished product. The moving assembly has indeed been the chief cause for the virtual trebling of output per man-hour which has occurred in this industry during the thirteen years. Effective loading machines for coal mines with fairly thick

seams have also been developed and should remove much of the hard labor which now characterizes that industry.

Not only has the moving conveyor enormously lessened the amount of moving which the workers would otherwise be compelled to do but it has also economized space by enabling more men to be packed within a given area. By having the work flow by them at given heights, it has lessened the fatigue of bending and it has permitted a much more minute division of labor, of which the Ford factory is but the most notable example. It has moreover given to the employer the power of controlling the tempo of the factory by his control over the speed of the moving conveyor. This has in turn lessened the difficulty which employers have had with such methods of payment as time-wages and piece-rates. It is no longer so necessary to offer payment according to output with all the attendant dangers of piece-rate cutting and pegging of output, in order to draw out the best efforts of the workers. The moving conveyor takes the question as to the speed at which the workers shall work out of their hands and places it primarily in those of the employer. He can set the pace of the conveyor and pay the workers a day wage. They must keep pace or quit.

The principle of the moving conveyor is indeed the greatest technical contribution which America has made to industry during the last century. It has penetrated many other aspects of our life as well. What indeed are moving stairways and cafeterias but applications of the same principle? The Gary or "platoon" system in education and the group clinic and the affiliation of specialists in medicine are further exemplifications.

The third factor which has enabled American industry to expand productively has been the large internal market characterized by complete free trade and by the absence of tariff walls. By a strange paradox this has occurred in a country whose people show an obstinate determination not to recognize the advantages of the geographical division of labor between nations. Despite the efforts of economists, the great majority of our citizens have permitted themselves to be deluded by the manufacturers of the East and by other special interest groups and have persuaded themselves that it is actually to their advantage to purchase commodities which are produced here at

greater money and physical cost than they are abroad. But by the happy accident of nature, the union of the states has itself expanded so that it now comprises an area as large as Continental Europe with a total purchasing power which is probably not much, if any, less. This has not only permitted a widespread geographical division of labor within our own borders, whereby the South can specialize in cotton, the Middle West in corn, pork, and wheat, and the mid-mountain states in mining and grazing; but it has also given a wide market for our manufacturing concerns. The division of labor, as Adam Smith remarked, is limited by the extent of the market. If we, like Europe, were divided up into over a score of nations, each trying by means of high tariffs to be self-sufficient, our manufacturing enterprises would have to be smaller because of the smaller market available for each. Such concerns as Hart, Schaffner & Marx, the American Telephone and Telegraph Company, the General Motors Company and the Ford Motor Company would be physical impossibilities were we composed of such mutually exclusive national states. Our wide market has made possible our gigantic industrial concerns and consequently the minute division of labor within enterprises which has been such a force in increasing the volume of our manufactured goods.

We are at present overrun with a large number of foreign visitors who are seeking the secret of our prosperity.¹ If they return merely to copy the external features of the Ford production process, they will have missed one of the vital elements in our success. Europe can only hope to attain our prosperity if she sweeps away the tariffs which are now raised on every side and through a zollverein permits the free flow of goods across national boundaries. Only thus can she realize the advantages which flow from a broad geographical division of labor and a wide market. Napoleon saw this in his lucid moments over a century ago and even today after the disastrous world war there are still some who, like Count Coudenhove-Kalergi, see it.² Thus the example of the United States is

¹ For two recent books see Austin and Lloyd, *The Secret of High Wages* (1926), and Julius Hirsch, *Das Amerikanische Wirtschaftswunder*.

² See Coudenhove-Kalergi, *Pan-Europe*; Heiman (edit.), *Europäische Zollunion, Beiträge zum Problem und Lösung*; Woytinsky, *Die Vereinigten Staaten von Europa*.

the best testimony for that doctrine of freedom of trade which the intellects of most Americans have for so long been too benumbed to grasp.

I turn now to a possible cause of our material prosperity upon which it is more difficult definitely to pronounce judgment. In our basic industries, the capitalistic class has had little effective opposition from the workers in reorganizing the technique of production. It is generally said that large-scale industry creates unionism, but in this country at least, unionism is weakest in those industries which are characterized by mass production. The iron and steel industries, the metal trades, the chemical, rubber, textile, packing, petroleum and automobile industries have little effective unionism. Unionism is strongest in technically retarded industries such as building and coal-mining; in small-scale industries, such as cigar-manufacturing and printing; and in skilled trades such as pattern-making. The American workers, therefore, do not have the opportunity of protesting, as the strongly organized British and German workers have, against the reorganization of their working life which is entailed by modern production methods. Since workmen, like everyone else, tend to be conservative when it comes to readjusting their methods of life, this very absence of organization has removed in America one of the barriers which exist in Europe against improvements in production. The dominance of the employing class in the United States has made the organization of industry much more autocratic than in Europe but it has probably produced more goods. It is of course not ideal since it weakens labor's power of securing a larger share of the products of industry and it affords little or no protection against unemployment. What is desirable, of course, is that trade-union organization and industrial productivity should not be mutually exclusive but rather that they should be common characteristics of industry.

Fortunately there are many straws in the wind to indicate that the American labor movement will be more anxious to promote technical improvements in the future than it has been in the past. As illustrations of this tendency, I have only to point to the well-known example of the Amalgamated Clothing Workers; to the union-management cooperation plan which

the machinist's union is carrying out with the Baltimore and Ohio, the Chicago and Northwestern and the Canadian National Railways; and finally to the offer of so conservative a labor leader as President Lewis of the United Mine Workers to have that union cooperate with the coal operators in improving the technical methods of mining.

It may well be objected that the causes which have been assigned for our increased productivity were all operative before 1921. How then can they explain the enormous increase which has taken place subsequently? We can only say that the rate of growth of capital and the use of better methods of factory production have been greatly speeded up in the last five years. We seem to be saving much more than ever before, while the modern business manager seems more anxious than ever to make technical improvements. The reasons for this revolution in the mental attitudes of our business men are probably many. In part they proceed from the fact that the shutting off of the supply of immigrant labor, depriving them as it did of their former plentiful labor reserve, made them realize that they must abandon their old methods of driving labor and turn for a substitute to a more effective organization of their methods of production. Second, the fact that the wage rates of the skilled and semi-skilled workers were not cut commensurately with the fall in wholesale prices during the depression of 1921-22 also forced them to increase efficiency in order to survive. Finally the fifteen years' discussion of scientific management and of efficiency made the managers of our industries aware of some of the great wastes which existed and gave them the technique, particularly in the arrangement of production sequences, whereby they could lessen these losses.

There is one other change, moreover, which occurred during this period and which should not be overlooked. This is the advent of national prohibition in 1919. In many respects the experience with prohibition has been disappointing and it is difficult to get at all the results. While it is dangerous to make any definite appraisal at this time, I can only say that from all the evidence which I at least can secure, it has helped to raise the productive efficiency of the American workingman. Monday-morning absences seem to have decreased greatly and the working force carries production on through the week with more vigor.

3. *The Relation Between Production and Wages*

What then is the relationship between the great increase in per capita productivity and wages? The supporters of the marginal productivity theory declare that it has been the increase in productivity which has made possible the increase in real wages of all workers—an increase since 1919, according to my index, of approximately nineteen per cent. Since workers now produce much more in a day or an hour than formerly, employers will offer more, in terms of real wages, in order to secure their services. The competition of employers, not only within but also among industries, is thus relied upon to increase wages as the natural consequence of an increase in per capita productivity.¹

This increase has been participated in by workers in industries such as the building trades where there have been no notable increases in physical productivity. This fact is sometimes cited to disprove the contention that only an increase in productivity will permanently raise wages. But what does of course determine wages in specific industries is not so much physical productivity as value productivity. Where the output of industry in general is increasing, the exchange value of each unit in these specific industries whose output is not increasing will necessarily advance. In consequence, wages in these technically stationary industries will rise.

The flow of labor from the low-wage to the high-wage industries will also tend to create an equilibrium when an equality of gain has been made by all those with equal skill even though in differing lines of work. This will of course cause a reduction in the total output of those industries whose value product per worker has not advanced as rapidly as that for all industry as a whole and an expansion of output in the case of those industries whose per capita value product has risen more rapidly than the general average.

¹ Provided of course that the increased productivity is not absorbed by added payments to capital or to the owners of natural resources. I have outlined some of the forces which determine the relative gains per unit secured from an increase in productivity by the various factors of production in an article which is to appear in the forthcoming memorial volume to Professor John Bates Clark and which I am also developing in greater detail in a volume on the theory of distribution.

In recent years, a reverse statement of the interrelationship between productivity and wages has found increasing currency—namely that high wages are necessary as a prior cause to enable the goods produced under improved technical conditions to find a market at a profit. This theory has been advanced at varying times by representatives of labor who have sought either to increase wages or to prevent a reduction, but it has gained its chief vogue from the utterances and assumed practices of Mr. Henry Ford. Thus in his autobiography,¹ Mr. Ford declared:—

I believe in the first place that, all other considerations aside, our own sales depend in a measure upon the wages we pay. If we can distribute high wages, then that money is going to be spent and will serve to make storekeepers and distributors and manufacturers and workers in other lines more prosperous and their prosperity will be reflected in our sales. Country-wide high wages spell country-wide prosperity.

To this statement, however, Mr. Ford added the saving clause, "provided, however, the higher wages are paid for higher production."

In a later work, Mr. Ford made an even more direct statement of this principle.²

Nor can little business grow big on the theory that it can grind down its employees. The plain fact is that the public which buys from you does not come from nowhere. The owners, the employees and the buying public are all one and the same and unless an industry can so manage itself as to keep wages high and prices low, it destroys itself, for otherwise it limits the number of its consumers. One's own employees ought to be one's best customers.

The real progress of our company dates from 1914 when we raised the minimum wage from somewhat over two dollars a day to a flat five dollars a day, for then we increased the buying power of our own people and they increased the buying power of other people and so on and so on. It is this thought of enlarging buying power by paying high wages and selling at low prices which is behind the prosperity of this country. It is the fundamental motive of this company. We call it the wage incentive.³

¹ Henry Ford, *My Life and Work*, pp. 124-25.

² Henry Ford, *Today and Tomorrow*, pp. 8-9.

³ For somewhat similar statements, see *Today and Tomorrow*, pp. 151-55. "The right wage is the highest wage the employer can steadily pay. That is where the ingenuity of the employer comes in. He has to create customers

This idea of the necessity of high wages to provide a wide market, which has been also expressed by other business men, has been taken over by a number of European writers.

Now, it is plain that this theory of the necessity of high wages is either implicitly or explicitly based upon the assumption that if wages are "low" (waiving for the time being the precise meaning of this word) there will not be enough monetary purchasing power to take off from the market the huge volume of goods produced. The productivity theorists therefore do not fully meet the objections of this group by saying that an increased productivity of goods will of itself subsequently cause wages to be increased.

What concerns this group is rather how the increased volume which results from technical improvements can be sold unless there is an appreciable increase in wages. If wages move up slowly because of the time-lag in industry, or if through the reluctance or agreement of employers wages are not bid up commensurately, then the supporters of this doctrine reason that there will be insufficient monetary purchasing power available for buying these commodities. Business will in consequence be compelled to curtail production and men will be laid off. Industry will thus be cursed with the very fact of its own productivity. On the other hand, an initial act of faith in raising wages, it is said, will build up the fund of consumers' purchasing power and thus either prevent business from suspending or actually stimulate it to further production.

It is well to point out in the first place that, to the extent which such a theory is valid, it is for all industry as a whole and not, as Mr. Ford and some of his followers have at times

and if he is making a commodity, then his own workers are among his best customers. We have about two hundred thousand customers in our own company... in the people we directly pay wages to... and we are creating more customers every day in the workmen of the people we buy from... It is an ever widening circle of buying; paying a high wage has the same effect as throwing a stone into a still pond. There can be no true prosperity until the worker upon an ordinary commodity can buy what he makes... If you cut wages, you just cut the number of your own customers. If an employer does not share prosperity with those who make him prosperous, then pretty soon there will be no prosperity to share. That is why we think it is good business always to raise wages and never to lower them" (p. 154). Mr. Ford adds, however, that productivity must also be increased.

argued, for individual enterprises or even for entire industries taken separately. For, if an individual concern increases its wages bill, it builds up the purchasing power for its products not in an equal proportion but to only an insignificant fraction of the increase in wages. Our society is one in which most of the monetary income of a worker comes from a given industrial source, but where he spends it upon a multitude of objects other than those which he produces. The boot and shoe worker whose wages are advanced by twenty-five per cent will not spend all of these added dollars on more shoes. If budgetary studies are any guide, he will not spend more than a fiftieth of this addition for shoes, and he may very well spend a large portion even of this on shoes produced by companies other than that by which he is employed. He will also tend to buy such other things as more and better suits of clothes, more fruit for his table, better living quarters, more amusement, and more education for his family. When, therefore, Mr. Ford appears to argue that an increase in wages or a decrease in hours of work will increase the demand for Ford cars commensurately with the increased possession of money or of leisure, he forgets what should be obvious to all, namely, that even in America men have other desires to gratify than that of driving his particular type of automobile.

In the main, therefore, it would be suicidal for individual businesses or industries to increase wages in the hope that they will thereby create an appreciably larger market for their product. Other industries would profit from the increased monetary demand which would be created, whereas the group which increased wages would suffer. But, it will be argued by some, the other merchants, manufacturers and farmers whose monetary incomes have been thus increased will have more money available with which to purchase the goods of the industry whose wages have been increased and therefore the bread which has been scattered upon the waters will ultimately return. That there will be some such tendency is, of course, undeniable; but these men in turn will certainly have no greater desire to spend their increased income on one particular commodity than the workmen employed in that industry. Mr. Ford's analogy of increasing wages and the throwing of a stone in a pond is correct, but the moral is that the effects of the

impact are diffused and are not confined to the point of origin. The overwhelming proportion of the purchasing power will be scattered to other industries and will not return to the industry in question.

Plainly then, if the theory is applicable, it is one for all industry as a whole and not for individual parts. To get such voluntary action by all employers in increasing wages synchronously would, of course, be a virtual impossibility. The argument therefore fundamentally implies that either some employers should sacrifice themselves for the benefit of industry as a whole, which is directly opposed to the principle of the profit system, or that trade-union pressure and governmental enactment should be employed to increase the wage scale.

The query then arises as to whether such an increase in wages for all industry as a whole would actually increase effective demand. If the supply of bank credit is so expanded that the increase in money wages is accompanied by proportionate increases in interest and money profits, then prices will rise proportionately. The orthodox economist, accustomed to think in terms of value, will point out therefore that neither the purchasing power of the workers nor that of any other class has been increased. There would be more money in people's pockets but it would not enable them to secure more goods.

But what if the increase in wages came out of the sums previously paid to capital, land, and management? Then of course the workers would be able to buy a larger and the other factors a smaller share of the total product than before. Similarly, if the money income of these three other factors of production were not to be altered, but labor alone were to be paid more, then although prices rose, they would not increase in the same proportion as wages, and hence the workers would have increased purchasing power. Since the workers buy in the main standardized products, manufactured on a large scale, while those in the upper income groups spend a much larger proportion of their income on personal services and individualized commodities which have been produced under handicraft conditions, this means that the demand for factory goods increases, while that for the more individualized products decreases.

Can this, however, be said to be an increase in demand? Is it not rather a transfer in demand from the proprietary classes to the manual workers?¹ Such a transfer would normally be expected to increase the total amount of human happiness, yet the orthodox economist would not grant that it increased the total supply of purchasing power. It should be noted that increased monetary purchasing power has been placed at the disposal of those industries which in practice have shown the greatest increase of physical productivity and that the withdrawal of purchasing power has been from those occupations in which there has been little or no increase of production.

But this consideration raises the further question why factories need an increase of available monetary purchasing power in order to find a market for their increased volume of goods? The orthodox economists, led by J. B. Say, have asserted for over a century that there cannot be such a thing as a general overproduction of commodities, for, as they declare, the production of goods constitutes the demand for goods. Will not this great increase in production, therefore, merely mean that all of the prospective purchasers will enter the market supplied with more commodities than before and hence will generally be able to command more in return?

It is true, of course, that the value relations between the commodities may indeed well change not merely because of differing increases in the quantity produced but also because of differing elasticities of demand. To increase the supply of one commodity by twice the average increase may mean that its exchange value per unit will be halved; while in the case of other commodities it may be decreased by much less or by much more than half.² But while the value relations may change, the demand will still be there. Since ultimately goods are exchanged for goods, Say maintained, to increase produc-

¹ This point has not been given sufficient recognition by such members of the overproduction school as Rodbertus.

² J. M. Keynes in his biographical *Memoir of Alfred Marshall* ascribes to him the discovery of unit elasticity as the point of division between elastic and inelastic demand and lists this as Marshall's greatest contribution to economics. Cournot, however, had clearly pointed out this distinction in 1828 in his *Recherches Mathématiques*.

tion is merely to give producers more commodities with which they may barter.

This reasoning of Say's was taken over by James Mill and McCulloch to refute the overproduction theories of Sismondi, Robert Owen, and Malthus, who on this subject ranged himself with the unorthodox. Ever since, it has been accepted in the main by the economists of the orthodox tradition. But this supposed refutation rests upon an extraordinary error in logic which was detected almost a century ago by the Englishman John Gray,¹ and recently by Foster and Catchings,² in their brilliant and suggestive writings.

These writers have pointed out that in an industrial system which is conducted in terms of money prices, goods are not directly exchanged for each other, as under conditions of barter, but rather through the medium of money. An increase in the physical volume of production, unless it is accompanied by a corresponding increase in the supply of money or of commercial credit, will therefore cause a reduction in the general price level. The goods can be purchased but only at a lower price level. But this lower price level creates many difficulties for business. The raw materials and the labor which are embodied in the finished product have been purchased previously at a higher price level and now in their fabricated form must be sold at a lower price level. Since profits constitute the difference between costs and selling price, even a slight shrinkage in prices will make severe inroads upon the amount of profits. Thus when profits have been five per cent on turnover, a fall of five per cent in the price level will, by obliterating all of the profits, cause a decline of one hundred per cent in their amount.

Business cannot continue to look forward with equanimity to that shrinkage in inventories which must necessarily result if the volume of production is to continue to increase faster than the volume of the circulating medium. In order to protect themselves, industries will accordingly restrict production or close down. But by throwing men out of work they will destroy purchasing power still further and lessen the market

¹ See John Gray, *The Social System* (1830); *Lectures on Money*, 1848.

² Foster and Catchings, *Profits*, pp. 247-418; also *Business Without a Buyer*.

for goods in general. Thus, once the breakdown is started, the depression will become cumulatively worse.¹

Such an analysis as this seems to me to be fundamentally sound and to indicate at least one of the major causes of industrial depressions. Foster and Catchings are deserving of great praise in pointing out the real nature of overproduction in our economic system; it is not general overproduction as such writers as J. A. Hobson² have at times argued, but rather overproduction at a given price level. The increased quantity of goods can be sold but only at a lower price level. This lower price level is not, as J. S. Mill and others have reasoned, a matter of indifference, but because production has been carried on over a long period of time, present commodities have embodied within them past prices. If these past costs cannot be recouped out of present selling prices, business will suffer a pecuniary loss and under our present system of industry cannot continue to produce at the full rate of output. Within recent years the improvement of our railroad service, the speeding up of production within factories, and the growing practice of hand-to-mouth buying have combined to lessen the length of time which an individual enterprise holds a commodity and consequently have decreased the risk of loss in market values. The abundance of our gold reserves has also permitted an expansion of credit roughly commensurate with the increase in production. The Federal Reserve System now contains a large amount of "idle" gold which could be used as the basis for a considerable expansion of credit. There

¹ The Danish economist Birck has pointed out an additional way in which business depression cumulates. "Let a commodity", he writes, pass through three stages and the monthly sale be 10 units; then the last producer must buy from the second one half-finished goods for 10 pieces and he again from the third producer, raw material for 10 pieces. Now the demand shifts and only eight are sold; the first producer has then 2 left and believing that he will not be able to sell more than 8, he only buys 6 from the second producer, who in turn has 4 left and judging his future sale to be only 6, buys only 2 units of raw material from the last producer; the latter has then 8 units on hand and stops altogether." J. V. Birck, "Theories of Over-Production," *Economic Journal*, Vol. 37 (March 1927), pp. 19-20. J. M. Clark was the first to point out this tendency in his article, "Business Acceleration and the Law of Demand," *Journal of Political Economy*, Vol. XXV, pp. 217-35.

² J. A. Hobson, *The Economics of Unemployment*.

would seem therefore, to be no imminent danger of a shortage of monetary purchasing power. But in the long run there is no more surety that the supply of bank credit can increase in proportion with the increase in the volume of commodities than there was a century ago that the supply of gold and silver would increase in an even ratio with the advance in productive output. When such a coincidence, which tends to be largely accidental, does not occur, then our pecuniary mechanism is subjected to a great strain through the efficiency of our industries, mines, railroads, and farms.¹

In such a situation an increase in money wages, even though secured at the expense of other classes, would throw more purchasing power into the market for those very commodities which are being produced in increased quantities. For it is in factory products, turned out under conditions of large-scale production, that the big increase in output has come and it is this type of commodities in which a fall in the price level is at once the most possible and the most dangerous. A transfer of purchasing power from the wealthy to the workers would cause the prices of services and of luxuries to fall. But since the price of these services and articles generally is less significantly related to utilization of raw materials already produced and to manufacturing processes already paid for, the shrinkage in values would not be so disastrous.

Viewed in this light, an increase in money wages which did not come directly out of money profits and interest payments but which was instead financed by bank credit, would also create added monetary units of purchasing power which would serve to balance the increased output of factory and mineral products and prevent the price level from falling.² To the degree in which it would decrease the real income of the other economic classes, it would serve to lessen in some measure the amount annually invested. Since their needs are sharper, the

¹ If the increase in productivity is confined to one country, relief can be found, of course, in large part by virtue of the fact that the lowered prices will cause exports to increase and thus will cause more gold to be imported in return. This in turn will check the further fall in prices and restore them to an international level.

² The increase in money wages might of course be so great as to cause the price level actually to rise, despite the greater volume of commodities.

workers would probably spend more of this income for present wants than would the wealthier classes. The resultant decrease in savings would lessen the rate of growth in the volume of future output and hence would help to lessen the danger of catastrophic price declines—but, and this should not be forgotten, only at the price of securing a smaller quantity of goods. It should be recognized, however, that a general increase in the money incomes of all classes would also help to avert the fall in the price level and consequently the decline in business prosperity. The primary need is for stability in the price level of those goods manufactured under the present technique of mass production and this can be secured by a general and proportionate increase in the supply of monetary purchasing power and not merely by a transfer of it.

There is a further conclusion which deserves attention—namely, that the greater the equality in the distribution of the national income the less is the danger of a business decline following a given absolute increase in industrial productivity. When as in Great Britain before the war, a half of the income is enjoyed by one-ninth of the population and, indeed, over one-third by approximately three per cent,¹ the amount of relative purchasing power which is left in the hands of the masses would be less than in countries such as our own, where in 1918 the corresponding group did not receive more than twenty-two per cent of the total.² Consequently, when a great increase in mass output took place there would be fewer monetary units to absorb this output and prices would consequently decline much more rapidly than where there was a closer approach to equality of distribution.³

It is difficult therefore, suddenly to introduce modern technical methods of production in semi-closed economic societies characterized by great inequalities of income. If great ad-

¹ Chiozza Money, *Riches and Poverty*, also J. C. Stamp, *British Incomes and Property*.

National Bureau of Economic Research, *Income in the United States*, pp. 85-87. Pareto's assumed law of the equal proportionate distribution of income in the various countries has of course received its *coup de grâce* from Dr. F. R. Macaulay.

³ For an interesting article indicating methods of computing coefficients of inequality, see S. N. Procopovitch, "The Distribution of National Income," *Economic Journal*, Vol. 36 (1926), pp. 69-82.

vances in output are to be made, there must be a considerable volume of purchasing power ready to absorb it. This, too, is a lesson which Europeans who are pondering over the possibility of Fordizing Europe should take to heart.

4. *Some Lines of Action for the Future*

If the analysis which has been made is sound, then society should in some way see to it that monetary purchasing power be augmented sufficiently to prevent prices from falling. But precisely how should this be done? At the moment, the reserves of our banking system are amply sufficient to provide for this. It is probable, however, that a large portion of this gold will ultimately return to Europe where it will be needed to stabilize European monetary systems. If our production continues to expand, we may be faced with the necessity of increasing the money side of the price equation. The effects would naturally depend upon the form in which the new purchasing power was created, the agency by which it was issued, and the classes receiving it.

If the percentage of the gold reserve in our banking system were to be lowered so that banks might loan more to commercial enterprises, the difficulty would not be fully solved, since businesses would use this added credit to increase productivity still further. While the prices of consumers' goods would temporarily be bid up by the workers in capital-producing industries, who would have more money in their pockets than they otherwise would have had, this rise in price would not be maintained permanently. For the added flow of consumers' goods produced under the profit system would cause prices in the future to fall as the result of building up in the present still more privately owned capital.

Perhaps the best way would be for the government to expend purchasing power for the construction of public works, which would thus give purchasing power to the workers and stabilize the price level. Since the services of these public works would later largely be offered gratuitously to the public, they would not enter into the volume of commodities offered for sale and hence would not create a fall in the price level. The government could secure the funds by borrowing from the banks, although doing so might require the lowering of the legal reserve ratio. This would retain something of a check

on the amount of bank credit which was created, but it would give to the banks the interest paid upon these fresh units of monetary purchasing power, and create a liability which ultimately would have to be repaid.

If proper safeguards could be provided to prevent inflation instead of such borrowing, I would personally favor an issue of paper money on the part of the government to pay for the materials and labor utilized. In this way society could get needed public works constructed without any added cost to itself. Labor which would otherwise be largely unemployed would be used instead to construct needed roads, buildings, playgrounds, etc.

Obviously great care and restraint would be needed to prevent such an undue issuance of paper money as would enable the government to bid up unduly the prices of commodities and of labor. In order to meet the need at least three standards to guide the issue should be followed. The issue should be so limited as: (1) to prevent the index of unemployment (the present lack of which is one of the shames of American official statistics) from rising above, let us say five per cent; (2) to prevent the general price level from rising by more than two or three per cent; (3) to prevent the foreign exchanges from being dislocated.

Whether it would be possible for governments to exercise such self-restraint is doubtful, of course, but if the danger of inflation could be avoided, the balance of advantage would seem to lie in financing such public works by a managed currency. This may seem heretical to those who, having been reared in the fiery opposition of Eastern creditors to the green-back and free-silver movements, have come to feel that only gold can constitute money. But there is no intrinsic merit in gold itself save that it imposes a natural limit to the quantity of money which can be issued and thus preserves man from the possible consequences of his own folly. But if a combination of philosophers and economists, endowed with courage as well as with judgment, could be given control over our monetary supply, it would be possible for us largely to prevent business depressions and to build up, at little expense to society, a large amount of social capital which would raise the level of life of the main body of the people.

THE DECLINE IN THE PURCHASING POWER OF AMERICAN FARMERS SINCE 1900

HON. FRANKLIN W. FORT

Congressman from New Jersey, Newark, N. J.

OUR discussions in Congress have been devoted more to the decline in the purchasing power of the American farmer since 1913 than to the decline since 1900. The reason for this trend of public debate is probably to be found in the fact that the decline in the relative economic position of the farmer as contrasted with other men, rather than the decline in his positive economic status, has been chiefly productive of political friction.

Heretofore—and by that I mean prior to 1900, and perhaps 1910—the American farmer occupied a middle status in the economic scheme of things wherein, being both a capitalist and a laborer, he enjoyed the highest social and economic position of any man who worked with his hands. That status, he feels—and perhaps properly—he has lost, through no fault of his own, in the last ten or twenty years, because of the increase in the economic and social status of other hand-workers. He wants what they have. His production will not buy it.

Now the reason that his production will not buy it, as contrasted with 1900, is not that the unit value of his product has not kept pace with the unit price at wholesale of what he must buy.

In 1900, farm products were approximately 87 per cent of the general index of all commodities at wholesale. In 1924 they were over 90 per cent; in December of 1924, approximately equal. Consequently, the decline in the purchasing power of the American farmer is not due to the fact that his wheat or milk or what you please has not risen in the same proportion that the wholesale prices of other commodities have risen, but it is due to some other cause. One of those causes has been that the farmer has become tremendously more of a retail buyer while still remaining a wholesale seller. Another

cause is the decrease in production on many farms of those things which formerly were raised on the farm for consumption on the farm. That is one of the troubles in this problem, but it is perhaps not so much economic as social. As was stated in one of the great farm magazines of this country within the last three or four months, the farmers in certain sections refuse to do dairying because dairying is peasant farming and they would not enter into that type of effort. There are large farming sections which are actual importers of milk, cream and butter—indeed, actual importers from other sections of practically their entire food supply for their own consumption. That is one of the reasons for the farm problem, as we know it.

But more than that, the farm problem today—and when I say the farm problem I mean exactly what the title of my address calls it, namely, the decline in the purchasing power of the American farmer—rests upon fundamental causes that even a cure of this food-raising situation would not completely ameliorate. The gross income of the American farmer has increased since 1900 about 100 per cent. All farm products in 1900 were valued at about \$6,500,000,000 and are now valued at something over \$13,000,000,000.

In the same period, the number of workers has increased only about 20 per cent, the number of farms by about 20 per cent, and the number of harvested acres by about 20 per cent, but the product has doubled in value. Normally that would seem adequate to take care of a rise in the all-commodity index of only 50 per cent, or perhaps, as contrasted with 1900, of about 70 per cent. However, three major things have happened, one of which is that the value of American farm property has risen from \$20,000,000,000 to \$80,000,000,000 in that period, or 400 per cent. Now by all farm property I do not mean merely the acreage value of land but I mean land, improvements, implements, stock and the other items of investment in farm property. In other words, the production of the farm in money value, has risen 100 per cent, while the investment value has risen 400 per cent, and on that investment value the mortgage debt has risen 400 per cent. The interest on the investment of American farmers has risen in the twenty years between 1900 and 1920 from approximately \$1,200,000,000 a year to \$4,800,000,000 a year. In the same period, the taxes

of American farmers have risen over three times, probably over four times, above what they were in 1900. The service of the \$4,000,000,000 mortgage debt—as contrasted with approximately \$1,000,000,000 in 1900—has of course tremendously increased, not only for interest, but, in order to prevent foreclosure, in the down payments on principal.

This situation is only partially the result of speculation. In 1900 the majority of American farms were still in the hands of original owners who had gotten those lands in many instances as free grants and in almost all instances at exceedingly low cost. The lands have in the meantime, since 1900, passed either by inheritance or by sale (and where by inheritance, after divisions among heirs which have required the placing of substantial mortgage indebtedness) into the hands of persons to whom they represent a tremendously enhanced value—a value much greater than that on which earnings had to be made in 1900.

All of this has operated to produce fixed charges by way of taxes and interest and service of debt which have taken out of the gross income of the American farmer what used to be his cash margin for outside purchases.

The total income, and the total income per worker, on the 1900 basis of capitalization of farms, would have produced as much purchasing power, relatively, today as it produced in 1900, if there were not the additional overhead charge which in 1900 did not exist.

One other thing that must be borne in mind in connection with the decline in the farmer's purchasing power is this: that that decline is not national but sectional. I remember that many of the farms of New Jersey in 1900 were absolutely deserted, and farmers who lived there had serious difficulty making both ends meet. Today they are quite prosperous, and indeed it is said that one county in the state of New Jersey has the largest cash income from agriculture of any county in the United States. The difficulty is that it is the greatest staple crop farmer of America, chiefly centralized in the cotton states and the grain states of the Middle West, whose purchasing power has disappeared; the difficulty is that the type of farming which prevails in the East today, largely due to the circumstance of location, is a type which lends itself to quantity pro-

duction. It is capable of expansion along the lines of dairy and fruit and truck farming, which makes for an increase of dollar return per acre—with the available market for the perishable products much higher than any possible increase in staple crop production per acre can yield.

In addition to that, the eastern farmer has no overseas competition, practically speaking, whereas the western farmer is passing through a period exactly like that which the eastern farmer passed through forty and fifty years ago. He is attempting to raise staple crops in competition with the virgin lands of other nations, just as our eastern farmers forty years ago were attempting to raise staple crops in competition with the virgin lands of the West.

There is another factor that time does not permit me to go into, but on which I have commented briefly and should like to enlarge. It is the tremendous increase in the cost of retail distribution of everything in the United States, as contrasted with the increase in wholesale prices. The farmer is a wholesale seller and a retail purchaser, to a degree and in a manner that is not true of other men, and if there be one form of waste in our present economic scheme in the United States more serious than others, it is the waste of money in our systems of reaching the consumer through retail distribution. The effect on the relative status of the farmer is enhanced by the fact that he used to raise and consume on the farm a great deal that he now buys, and on which consequently he must now pay the equivalent of the freight out and the freight back, in contrast to his former position of securing the product on his own property without hauling and delivery charges.

There are cures for some of these troubles and it is vital that we find them. It is in such groups as this that they may be found. May I say parenthetically that while the kings are not economists, there is a real effort, I believe, in this nation and I believe abroad, to lend an ear of sympathetic attention—at least—to the economist in the study of these problems, where they are governmental, a real willingness to study indices and charts, and a real desire—on the part at least of the average member of Congress—to get his constituents to think in terms of economics. In this you can be of tremendous help, in the solution of all of the problems where the government can be of

aid, not so much in scolding us as in helping us to create the proper public atmosphere that will permit a man who thinks along economic lines to remain in public life.

Some of the ways in which the farmer can to some degree solve his own problem I will try to sketch very briefly. One of them, of course, is the increased industrialization of the farm. It is significant that the only substantial increase in farms in the United States in twenty years was in the farms of over 5000 acres. In small farms, the increase was only twenty per cent. In large farms the increase was one hundred per cent. The increased industrialization and mechanization of the farm, assisting in producing a greater unit production per hand, will help solve the problem by decreasing costs of production. Then if more products are raised on the farm and less bought, that will help. It is possible, I believe personally, that legislation can help to some extent through evening out, without too strong a hand, the speculative and distributing processes which generally today do not operate in favor of the farm but against it. But in the long run, in a world of mass production, in a world of increased production per worker, the only ultimate cure is to be found not as some think in the enhancement of unit prices to a point out of line with unit prices of other commodities, but in an increase of the total production per pair of hands employed.

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SALESMANSHIP AND CONSUMPTION

STUART CHASE

Director, Labor Bureau, Inc., New York

I HAVE been asked to give you an idea of the particular subject which I have been working on during the past year in conjunction with an engineer, Mr. F. J. Schlink, of the American Engineering Standards Committee. We have been concerned with the general problem of the quality and dependability of what the consumer gets for his money. Instead of following the usual economic procedure of analyzing production, we have attempted to enter the more unexplored field of the economics of consumption. Particularly we have been analyzing the plight of the consumer in the present era of spirited salesmanship.

Now that Mr. Bruce Barton has made the gentle Nazarene the first of advertising men, it would seem that there are no heights to which spirited salesmanship may not aspire, and indeed there are none. As ultimate consumers, we are all Alices in a Wonderland of bright colors, soaring words, dazzling lights, unlimited service, fancy packages, Olympian claims, and almost impenetrable ignorance. A thousand firms and scores of embattled trade associations are importing counsels on public relations—they do not call them advertising men any more—to make us shoe-conscious, straw-hat conscious, plus-fours conscious, personality-perfume conscious, raisin-conscious, yeast-conscious, refrigerator-conscious, copper-shingle conscious, sauerkraut-conscious, plumbing-conscious, mouth-conscious, coffin-conscious—before our bank accounts become unconscious.

The technique of spirited salesmanship is a fascinating study. I can only give, in the time allotted me, the very briefest outline of the channels down which it may run. Perhaps the most important one, from the economic point of view today, is installment selling, which, as you all know, has this year borrowed from future years purchasing power to the tune of some \$5,000,000,000 or \$6,000,000,000. On the average we pay about fifteen per cent more than the ordinary cash price for a given product bought on the installment plan. We have

indeed achieved the envy of philosophers in thus being able to lift ourselves by our bootstraps. We have increased purchasing power relatively and absolutely—during the year in which mass installment selling first comes into the picture. How long this process can continue is a matter that others can determine a great deal better than can I, but it seems to be the consensus of opinion that a day of reckoning must sooner or later come.

Secondly, there is the technique of pushing annual models. Once we have a motor car, a sewing machine, a calculator, or what-not, producers strive to stimulate turnover by making changes in the model, sometimes quite unnecessary changes from the technical standpoint, but appealing to the eye—dandy little jiggers on the dashboard, new lines on the body, a coating of nickel in a new place. I am recently informed that the furniture people have embarked upon a campaign to give us annual models in drawing-room furniture!

Then there are the slogans with which the spirited salesmen attempt to impress their product on our mind: "Have you a Little Fairy?" "Four out of Five." "I'd Walk a Mile." "Next to Myself I Like." "You Just Know She Wears Them." "Like a Shower of Kisses." "It's Off Because It's Out." All follow the psychological law which the National Outdoor Advertising Association laid down so well in a recent advertisement: "Repetition is Reputation"—Not quality, not durability, not meeting the consumer's specific want, but rather impressing upon his consciousness by infinite repetition the psychological urge to buy.

Akin to the slogan is the enormous multiplicity and complexity in brand and trade names, a process which is growing all the time. Go through the advertising pages of *The Saturday Evening Post*, for instance, and note some of them. I have listed about eighty in one magazine. You will find names such as Celotex, B V D, Feenamint, Bondex, Protex, Textone, Kernerator, Ceco, Dim-a-lite, Ozite, Whale Bone-ite, Florazona. . . . What is the purpose of these trade names? Of course, the original purpose was clear: to impress upon the consumer's consciousness the product of a specific manufacturer, to set it off from the common classification of soap, wall board, cotton underwear, refrigerators. . . . I have a quotation from an advertising agency which brings this point home

very forcibly. "The final purpose of advertising is not to prove the comparative superiority of the article in competition. The object of advertising is *to take it out of competition*, so that it will no longer be compared but will be accepted by the buyer." But, alas, as the number of brands and trade names grows, the consumer becomes increasingly confused. He can no more remember all of them and what common goods they represent, than he can remember the provinces of Siberia.

There is the 15 per cent yearly increase in house-to-house canvassing with its ever more beguiling and intensive methods. There is the technique of selling us the package by virtue of its glitter and splendor rather than the intrinsic value of what the package contains. Thus wheat at 4 cents a pound becomes Puffed Wheat at 68 cents a pound; corn at 2 cents a pound becomes Corn Flakes at 30 cents a pound; rice at 5 cents a pound becomes Puffed Rice at 50 cents a pound. Package goods serve a distinct economic purpose; they are convenient; they enable us to keep things in better condition—but is that any reason for taking them entirely out of the area of comparative prices per pound, which so often happens? There is the enormous dealing in "sucker lists"; there is the elaborate and costly testimonial technique; there is the interesting phenomenon of sales quotas. An economist heard a district manager in Texas once rise to the dignity of a Joshua. There had been a drought in his area, but he brought his one hundred per cent fist down on the table and shouted, "Drought or no drought, West Texas has got to buy its quota! Sales resistance has stiffened, has it? Well, then, we'll smash it!"

There are the channels of market surveys, of full line forcing of substitute uses for a given commodity. Recently we have been shown one hundred and one different uses for the simple commodity, salt. Listerine advertising has gone through a series of substitute uses. Yet the American Medical Association notes that it takes \$495 worth of Listerine to equal the antiseptic effect of one cent's worth of corrosive sublimate. A recent substitution drive is that of the mineral-oil people: Mineral oil for internal use is, they say, an excellent material for lubricating sardines in cans.

Why is this massed and intensive drive on consumer's consciousness? It is a beautiful psychological phenomenon. It

is excellently done. It frequently works. Intensive salesmanship is implicit in certain of the factors which have been discussed this morning, as I see it. It is a part of what has been called the "new competition," arising from the fact that mass production has been operating to decrease costs continually, and thereby building up excess plant capacity, while purchasing power has not increased sufficiently to absorb the goods which mass production is capable of turning out. Consequently the great problem of the business man—the practical, concrete problem—is not how to produce goods but how to get rid of goods, how to market and distribute them. Production can be guided by reliable engineers at \$3500 a year, but breaking down sales resistance requires "go-getters" at \$20,000 and \$50,000, anything, provided they sell the goods. That applies not only to individual firms but to the cooperative sales campaigns of the trade associations, of which there are now some eighty-nine actively in the field.

Mr. Schlink and myself have been interested in the question of whether or not a *reductio ad absurdum* is going to be ultimately reached, a point at which the consumer is baffled beyond all hope of determining the quality and durability of the goods that he buys, and is ready to organize to secure a specific and reliable source that will tell him which among these conflicting claims are true.

The Bureau of Standards at Washington gives us a working model of what might be done. With an expenditure of some \$2,000,000 a year, it is reliably estimated that the Government saves in its purchases, \$100,000,000 per annum. If that technique could be extended to the consumer at large, by setting up impartial laboratories to which the consumer might appeal for reliable tests on competitive products (not on luxuries, or on the things that we buy for the flair they give our personalities, or for the gloom they give the Joneses), perhaps some liquidation of the enormous burden of ignorance, misinformation, and downright adulteration, might be brought about. Such laboratories would make the beginning of a genuine science of consumption, and, one hopes, go far towards reducing the present fantastic costs of distribution, and so bring the very real economies of mass production within reach of the ultimate consumer.

DISCUSSION¹

MR. A. S. LELAND (New York City): I want to ask Mr. Thomas if he doesn't feel that mass production has very nearly come to an end when one reads this from Babson's report: "In 1924, a year of poor business, but 1 concern out of 4 was successful. Furthermore, only 162 corporations out of 417,421 made 29 per cent of the total profits of the whole group. An actual deficit was suffered by 43 per cent of nearly 500,000 corporations. Of these making any profit at all, one-half made less than \$2000 and three-quarters less than \$10,000."

I would like to ask Mr. Thomas if it isn't nearly time to obtain statistics from the corporations which have handed in their reports, according to Babson; if this mass production hasn't very nearly reached its end; and if installment buying and the tremendous increase of the bonds that have been put out by all the states, adding to the amount of money expended, haven't had something to do with this mass production?

MR. WOODLIEF THOMAS: I don't know the answer to your question but I imagine that if you take the statistics of income of the United States put out by the Bureau of Internal Revenue, you will probably find that the corporations that have made the profits are the ones that are doing the mass production, and those that have had the losses are the smaller ones. Whether mass production has come to an end or not, I cannot say; I am not a technical expert. Mr. Chase has written a good book on that topic, and he says not.

HON. W. R. GREEN (Council Bluffs, Iowa): Mr. Chairman, while I doubt whether I can add anything important to this discussion, as a Member of Congress representing a purely agricultural district of the Middle West, I have been very much interested in the able presentation of the difficulties of the

¹ The informal discussion following the addresses and papers by Mr. Woodlief Thomas, Professor Paul H. Douglas, Hon. Franklin W. Fort, Professor Ernest M. Patterson and Mr. Stuart Chase at the Morning Session of the Conference is here reproduced in large part, with the omission of platform amenities and with some abbreviation.—ED.

farmer which has been made by my colleague, Mr. Fort. It is by far the best exposition of the causes of the agricultural depression that I have ever heard.

Let me say in connection with part of his remarks, that I think there can be little inference drawn from the increase of mortgages on the farms of the Middle West. That was largely due to speculation which induced a rapid sale of farms; some owners fondly imagined that they were going to be able to retire on the profits of rising speculative prices. In this connection also I might refer to the remarks of another speaker as to the benefits which might accrue from, as I took it to be, an inflation of currency. We of the Middle West are inclined to attribute a great deal of our trouble to the fact that the Federal Reserve Board in the years after the war saw fit to inflate currency and credits to the extent of \$2,000,000,000 and thereby brought on that active speculative rise in values of farms. As the result finally showed, and, as Mr. Fort specifically pointed out, the rise of prices increased the capital investment to such an extent that a profitable return can no longer be made thereon.

Now just a word with reference to the tariff. It was pointed out by one speaker that the United States had received—as it undoubtedly has—great benefits from the fact that the principles of free trade are applied throughout the vast extent of this country with all its great resources, but I doubt whether the inference can be drawn that free trade or freer trade would result in the same way if we undertook to put the whole world under its influence. It certainly would cause a great readjustment of the business situation and of the manufacturing situation, especially in this country. Our mass production that now exists in this country would probably, under such circumstances, be transferred to the fields of Europe, where labor is so much cheaper than it is here. Possibly in the long run that might be to the benefit of the world, if all of the world would join in the readjustment, but there comes the trouble. Here in the United States, while we have not a homogeneous population, still we exist largely under the same laws and the same customs. Consequently, when industry fails in one locality, those who are engaged in it can easily remove to another and perhaps engage in some profitable enterprise, but that cannot

be done so easily where conditions are such as they are in Europe, nor would it be done so easily if we were to undertake to have this ideal condition of free trade throughout the world.

MR. DONALD M. MARVIN (Montreal, Canada) : In connection with Dr. Douglas' answer to Foster's and Catchings' proposition, I would like to know how you are going to achieve two ends at the same time: one, regulating the money supply with relation to unemployment and prices, which is an internal factor; and in the second place, regulating the money supply in regard to foreign exchange, which is an external factor? I can see how either one of the two can be done but I cannot see how both can be done.

CHAIRMAN MITCHELL: This question is addressed to Professor Douglas, who, I fear, is not present.¹ He was called out. Unless some one of the other speakers will volunteer to make an answer for him, I am afraid we shall have to treat it as a rhetorical question.

COLONEL MALCOLM C. RORTY (New York City) : On this problem of stabilizing business in general, I might refer to the work of the Federal Reserve Board, to the achievements of the railroad systems, or to the growing feeling on the part of business men, industrial leaders generally, that they have an obligation to the country as a whole, to their own employees and to themselves in particular, to lead their business in the paths of stability. These things are all-important.

It seems to me that this problem of stabilizing business goes back perhaps to Plato's *Republic*. As you know, he discussed at great length the problem of getting a willing following for intelligent leadership, and that I think is the great problem of business and of society and of politics. In so far as we are approaching a greater stability in business, it is due to the fact that we are acquiring leaders in business, in industry and in politics who are intelligent and who deserve to be trusted because they are using their intelligence in the public interest, they are recognizing their obligation as leaders in industry, business and politics. Above all else, the ordinary man who is not a leader, who perhaps lacks the qualities of intelligence

¹ See Dr. Lindsay's explanation, *infra*, p. 55.

to fit himself for leadership, is beginning to follow the intelligent leadership which does exist, because he has confidence in that leadership.

I emphasize this aspect of the problem because I have been traveling to a good many of the far ends of the earth in the last three or four years and have found conditions of instability based almost wholly upon untrustworthy or unintelligent leadership, thoroughly distrusted by the masses of the people. When you are looking for stability in business or in politics or in any other direction, you go right back to Plato's old problem.

The one specific thing that I would like to speak of today is Professor Mitchell's own work. My own inclination is to use dynamite on an economic fallacy. Professor Mitchell applies the solvent of his genial personality and of his incisive reasoning, and the fallacy vanishes never to be seen again. I have had the privilege of reading some of the advance text in his *Analysis of Business Cycles*, and I am quite certain when he finishes that work that no business cycle will dare to conduct itself in any other way than as he points out.

PRESIDENT LINDSAY: Mr. Chairman, I would like to say a word about Professor Douglas. I am sure all of those who know him will be already assured that he is one of the last men to run away from a discussion. I think perhaps it ought to have been stated at the outset this morning that he came here at great personal sacrifice, which we much appreciate, to take part in this meeting, in connection with another engagement made long previously to make an address at Amherst College this evening, and in order to make that connection he had to leave on a twelve-o'clock train, so he left the room some little time ago to make that train connection.

I hope that the Chairman himself will answer Mr. Marvin's question. No one here is probably as competent to give the audience the answer that ought to be made to that very interesting question.

With reference to the remarks that Judge Green made,¹ it is very gratifying to have the participation of the distinguished Chairman of the Ways and Means Committee, who honors us so often with his presence on these occasions. Unless I mis-

¹ Cf. *supra*, p. 53.

understood Dr. Douglas, I gathered that his statement with reference to free trade was intended not to advocate or even suggest the necessity for the adoption of world-wide free trade or free trade between the United States and other countries. If I did not misunderstand his statement, it was to the effect that if Europe wanted to find the reason for our prosperity, one great element was the wide range of area over which free trade existed between our states, and that perhaps a similar arrangement between the various countries of Europe, occupying a less wide area, might produce somewhat the same result.

I have no authority to speak for Dr. Douglas. I do not know what his views on free trade may be. It may be that he would want to take up the question that Judge Green put and advocate a wider extension of the principle to which reference was made in his address, but as far as the address here this morning went, if I did not misunderstand it, I think it was confined to the possible results of free trade between countries in Europe.

CHAIRMAN MITCHELL: I should be very glad to answer the question which Mr. Marvin put to Professor Douglas but if I started on it there would be no one to apply the five-minute rule which must be strictly enforced, and more than that, I would be glad to leave a small company of people for at least a short interval of time with the illusion that the charming remarks of Mr. Rorty have no doubt created in your mind. I will do nothing at all to disturb that illusion.

REV. JAMES DE HART BRUEN (Belvidere, New Jersey): Mr. Chairman, I would like to ask a general question. What effect has mass production had on the terrible crisis in China, and what had we better do about the mass production introduced in China?

CHAIRMAN MITCHELL: Is there someone among the speakers or someone among the audience who is in a position to comment upon this broad problem? I am afraid you have floored us.

COMMANDER HUGO W. KOEHLER (Naval War College, Newport, R. I.): Congressman Green commented on the fact that if we had free trade, because of the cheap labor abroad our mass production would probably leave us. I

am no particular free-trader, but I would like to ask two questions about it. In the first place, mass production requires relatively little labor, and cannot use cheap labor. Would it, then, migrate to obtain cheap labor? Secondly, is labor abroad really cheaper, or will it continue to be so as long as Europeans are fed pretty generally on wheat that is grown at American wages? Their labor comes pretty near to being what ours is, for the cost of labor to industry certainly is not the same as the amount of wages. Most of our people who have gone into manufacture over there tell us that labor is really cheaper in this country than it is abroad, although wages are less there. For instance, the International Harvester people, who tried to make plows in Russia, found that it always cost them a great deal more to make them there notwithstanding much smaller wages, and I could multiply examples of that sort of thing. So I would submit that it is not a foregone conclusion—indeed, it isn't even likely, that a lower tariff or free trade would deprive America of mass production.

MR. W. R. GREEN: I would rather let that question be answered by the great American manufacturers who insist they need tariff protection against cheap labor abroad.

HON. FRANKLIN W. FORT: Mr. Chairman, I didn't take the time in my earlier remarks to comment on what Dr. Douglas had said. In view of this discussion and particularly the last question from the floor it is of interest to observe that Mr. Frank W. Murphy of Wheaton, Minnesota, one of the outstanding spokesmen for those who desire legislation for the relief of agriculture, presented to the Committee on Agriculture of the House a very interesting analysis of the American economic system, which bears directly upon this question of Mr. Koehler's. He calls our system the American protective system, in which the protective tariff is but an incident. The American protective system as it relates to the need or the lack of need for a protective tariff or for farm-relief legislation consists not only of tariff but of immigration restriction, of legislation limiting the hours of labor, of compulsory workmen's compensation and pension systems in many states, of rate regulation of utilities and railroads, and of the centralized control of credits through Federal Reserve Banks.

We are not, as a nation in competition with the other nations of the world industrially, either hampered or benefited, therefore, solely by tariff protection. We are hampered or benefited as your viewpoint may be, by a complete code which has built a wall around industry and labor alike and around finance and transportation simultaneously. My only reason for this comment is that, candidly recognizing, as I think most men who have thought on economics at all do, the scientific desirability in an ideal world of universal free trade, I believe that the United States has reached a point in governmental development of all of its relations to its people and its industries, which demands that the system be consistent, either in the affording of equal protection to agriculture, industry and labor or in the wiping out of all the protections to any of them.

Therefore, bearing in mind the practical implications of an effort to wipe out all of the protections, bearing in mind that that effort would probably result, if economists were kings, in their ceasing to be kings, it seems to me that it is up to all of us to bend our minds to the perfection of the system that we have, in order that its burdens may bear as little as possible, where they are burdens, and that the benefits may be extended as widely as possible where they are benefits.

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PART II
SOME INTERNATIONAL ASPECTS OF
BUSINESS STABILITY



REPERCUSSION UPON INTERNATIONAL COMMERCE OF REDUCED PURCHASING POWER

ERNEST MINOR PATTERSON

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THIS rather cumbersome title is not the invention of the writer. It is taken verbatim from the agenda of the International Economic Conference starting in Geneva on May 4th. Perhaps its awkward phraseology is due to an original formulation in French and subsequent translation into English. But no matter what the explanation, further translation may be necessary.

Presumably it is proposed for discussion because it is thought that the purchasing power of certain countries has been reduced and that the world's foreign trade has been affected. A *prima facie* case is established for this view by the report of the Preparatory Committee of the International Economic Conference. From 1913 to 1925 world population increased five per cent and the foreign trade of the world gained by exactly the same percentage. But in Europe (excluding Russia) population was four per cent greater in 1925 while the quantum of trade was six per cent less or only 94 per cent of that in 1913. In 1924 it was only 89 per cent of the 1913 amount. In these calculations every attempt has been made to allow for changed price levels, for altered national boundary lines and for all other disturbing factors. The foreign trade of North America, the Caribbean region, Asia (excluding Asiatic Russia) and Oceania has grown more rapidly than the population of these areas. The trade of Europe (including Asiatic Russia), South America and Africa has grown less rapidly than their populations and in each instance is actually less than in 1913. It may be that the decline in foreign purchases and sales is a reflection of a reduced purchasing power in these areas; that each country concerned has produced less, exported less, and as a result has been able to import less than formerly.

But hasty conclusions should not be drawn. A recent article in an American journal is entitled "Business Has Wings."

Economic life is dynamic. Shifts in the direction and volume of trade may come suddenly and for a variety of reasons. My sales to a customer may decline for other causes than a sudden reduction in his purchasing power. For example he may be purchasing as much or even more than before but from some one else whose prices are lower or whose goods have a superior attractiveness.

In the field of international trade many factors are involved. British exports to Italy might fall because of hydroelectric development in the latter country which lessens the demand for British coal but is not to be interpreted as on the whole an evidence of a reduced Italian purchasing power. Russia may import fewer goods because of the lowered purchasing power of that country, but there may also enter into the situation an outside hostility to Russian economic and political theory and practice that aids in slowing up the foreign trade of that country. British India is buying less cotton piece goods from the United Kingdom, but this is not necessarily due to a reduced purchasing power of the people of India. We must inquire whether they have merely shifted their purchases to some other country or perhaps are manufacturing more cotton goods of an equivalent grade in domestic mills. Perhaps there has been a shift from the use of foreign cotton goods to those of home manufacture, of the same value. In many cases the explanation may be found in import restrictions, such as high tariffs. These obstacles to trade, rather than reduced purchasing power, may be the more immediate and direct explanation.

Then, too, it is not easy to be sure that purchasing power has altered. We might fancy that reduced productivity means reduced purchasing power. A business crisis, many bankruptcies, a large number of unemployed, factories idle, a decline in the volume of transportation—all these suggest a reduced purchasing power. Yet the country affected may have excellent foreign credit and maintain its imports by the use of borrowed funds. Purchasing power is the equivalent of demand as economists ordinarily use the term. It is desire plus ability to purchase the article in question. It does not matter whether the ability to pay is secured by the sale of goods just produced or by borrowing abroad. There is also often a delay

in purchasing—a lack of will to buy even when there is an abundance of purchasing power—due possibly to a hope that prices will decline.

Then, too, what shall be said of annual interest payments made by the government of a given country or by its nationals? Before the late war the United States was a debtor country and each year paid several hundred million dollars to foreign owners of American securities. To that extent the people of the United States were delivering goods and services for which they were taking nothing in exchange. It might be said that American purchasing power was reduced to that extent. Germany is to pay large sums each year on reparation account; various other countries are similarly obligated to make large external payments, the United States government and its nationals being the chief creditors. To the extent that these sums are paid the ability of the people of these foreign countries to take our products is reduced. For practical business purposes their purchasing power is reduced and there are repercussions upon our foreign trade—a pressure to increase our imports while the aggregate of our exports may tend to diminish.

Three illustrations of reduced national purchasing power that have already had repercussions upon international trade may be considered here, each one briefly. They are British India, Germany, and Great Britain.

British India

Valued at 1913 prices, the imports of British India in recent years compared with 1913 as 100 have ranged from 65.5 per cent in 1923 to 77.6 per cent in 1920. In 1924 they were 74.8 per cent of the imports in 1913. During most of that time the exports also were below those of 1913, although in 1924 they were 2.4 per cent above.

This reduction in imports reflected many things. One was a disorganized financial condition that hampered foreign trade. Import duties have also played a part. Yet there seems to have clearly been a reduced purchasing power. Exports in many lines declined. Tea held its own, and jute cloth increased as did cotton and cotton-piece goods. But cotton yarn, jute, rice, wheat, cotton seed and other articles declined, some of them to a very serious extent.

This reduced purchasing power has shown itself in a number of interesting ways. One of the most important is in the consumption of cotton cloth which may probably be classed as a necessity for the Indian. The amount worn, especially by the average man, can not be materially lessened for, as one writer has put it, while an Englishman wastes his clothes the Indian merely clothes his waist.

The yardage worn by his wife is much greater and is, I believe, largely determined by custom or social law. When purchasing power is lowered the amount worn may be lessened but much more can be done by shifting to the cheaper grades of cloth. For twenty years the number of yards of cotton goods produced and imported per capita has not changed appreciably except for a rise in 1911-15 followed by a corresponding slump in 1916-20. The average for twenty years is about 13 yards. But the amount imported has fallen from seven yards per capita in the period from 1896 to 1910 and eight yards from 1911 to 1915, to only four yards from 1916 to date. Cotton cloth produced on hand looms was about three yards per capita twenty years ago but for ten years past has been some four yards per capita. Production by the Indian mills has increased from two yards per capita to five yards per capita in the same period. As the price of cotton cloth has risen as compared with his purchasing power, the Indian has used more of the cheaper goods of local manufacture.

Not only have the cotton-goods imports been reduced in amount but the origin of the imports has altered. In 1913-14 the United Kingdom supplied 97 per cent of these imports and in 1923-24 only 89 per cent of the greatly reduced amount. Japan in the same period increased her share from three-tenths of one per cent to over eight per cent. The imports from Japan were of a cheaper grade. The effect of this and of similar changes in other parts of the world on British export trade is reflected in the distressing condition of the cotton manufacturing industry of Lancashire.

Germany

Germany's productivity declined very rapidly in 1923. For several years ending with 1922 industry and agriculture had been very active. Reacting from the depression during the

war, stimulated by the world-wide inflation of 1919-20, and then by her own inflation there had been a remarkable recovery. Although fixed capital was abundant there was a growing shortage of working capital. With the invasion of the Ruhr early in 1923 there came a general let-down which spread over the entire country. The crisis late in the fall was followed by many months of depression. In spite of the stimulus of loans under the Dawes plan and otherwise there is even yet only a partial recovery.

Nevertheless the most serious reaction was in 1923 and the early part of 1924. Monthly production of coal fell from ten or eleven million tons to some six million tons in 1923; of pig iron from 650,000 tons to slightly more than 400,000. Unemployment which was only six-tenths of one per cent of trade-union membership in June 1922 was over twenty-eight per cent in December, 1923. Everywhere there were signs of decreased productivity.

Ever since the war German exports had been low and in 1922 were only 61.3 per cent of 1913. In 1923 they fell to 52.8 per cent and in 1924 to 50.8 per cent. Imports also declined. In 1922 they were 58.5 per cent of 1913 and in 1923 only 44.6 per cent.

For a time the combination of problems faced by Germany caused a weakened foreign trade. Both imports and exports declined. Reduced productivity was not only giving less for domestic consumption but less for export. Reduced exports meant a shortage of foreign exchange and consequent difficulty in buying abroad. Many goods that were imported found a slow sale because of the unemployment and consequent low purchasing power of the German public.

But this lasted only a short time. In 1922 (to repeat) imports had been 58.5 per cent of 1913 and in 1923 they fell to 44.6 per cent. In 1924 they rose sharply to 62.9 per cent and in 1925 to 83.6 per cent. In 1926 they declined, but no calculations are available as to the percentage of 1913 at the 1913 price level. Exports changed in a very different manner. From 61.3 per cent of 1913 in 1922 they fell to 52.8 per cent in 1923, to only 50.8 per cent in 1924 and then rose to 65.4 per cent in 1925. In 1926 they gained slightly, exceeding the imports for the year, although in the latter half of the year the balance was distinctly unfavorable.

Germany's experience shows a reduced purchasing power sharply and promptly reflected in both imports and exports, especially in exports. Then imports promptly recovered, reaching in 1925 the highest post-war level, i. e. 83.4 per cent of 1913. Exports gained more slowly and in 1925 were still far below pre-war and at 65.4 per cent of 1913 were only a little above 1922. The explanation is to be found partly in the fact that German credit was temporarily weak. With financial improvement of 1924 loans abroad were readily floated and with the proceeds goods were purchased for import. This is an illustration of reduced productivity with a temporary reduction in national purchasing power and a prompt reaction on foreign trade, followed quickly by an increase in purchasing power. The purchases were made from borrowed funds in confident anticipation of a renewal of German productivity.

The United Kingdom

We have used India to show how reduced national purchasing power may be diverted into new channels, either foreign or domestic, and Germany to illustrate how national purchasing power may persist or be revived by the use of foreign credits. Many more suggestions could be found if time permitted a detailed discussion of either country. The United Kingdom's experiences also illustrate many points, but only one or two will be emphasized.

British productivity has clearly been less during the last few years than it was before the war. Unemployment figures, though large, are not the only evidence. They may be, as some argue, little more than an evidence of a growing population. The increase in unemployed may perhaps just about equal the addition to the working population in the last few years. But other indices are present. Ignoring the disasters of 1926, there is clear evidence of a decline in productivity. Coal, pig iron, shipbuilding and other lines show a smaller output than in 1913. Exports at 1913 prices were in 1921 only 49.9 per cent of 1913, gradually rising to 80.6 per cent in 1924 and then declining slightly to 80 per cent in 1925. Imports fell in 1921 to 74.3 per cent of 1913 and then rose until in 1925 they were 111.1 per cent of 1913.

Here is a period during which imports were down particularly because of a decline in exports. Inability to sell manufactured goods abroad meant that orders for raw materials were reduced and imports declined. Later imports increased much more than did the exports.

Just how this could occur is revealed by an analysis of the two groups of trade. In terms of 1913 prices total imports were greater in 1925 than in 1913 but this gain is attributable to one group, i. e. food, drink and tobacco. Still speaking in terms of the 1913 price level, imports of food, drink and tobacco were worth £295,000,000 in 1913 and considerably more than £300,000,000 in 1925. Imports of articles mainly unmanufactured, i. e., raw materials, fell from £270,000,000 to less than £200,000,000 and of articles mainly manufactured from £201,000,000 to about £185,000,000. Great Britain relies on the outside world for food and raw materials and markets. Food imports have been maintained to feed a growing population even though markets have been poor and raw materials could not be purchased as before.

How serious this is we may see if we examine the balance of payments of Great Britain for several years past. In pre-war days the balance was favorable and large. The Board of Trade now estimates it at only £86,000,000 for 1924, at £54,000,000 for 1925 and finds an unfavorable balance of £12,000,000 for 1926. If this is correct the British overseas investments in 1926 were more than offset by borrowing abroad. This reduction in capital may not be repeated, but the decline in income available for investment overseas has been going on for several years.

In conclusion brief reference may be made to the debtors of the United States and their purchasing power. It is often observed that our large export balance of trade may be modified or reversed at some future date. Our private foreign investments total probably \$11,000,000,000. In 1925 interest and dividends on our holdings of foreign securities was estimated at \$520,000,000 and it is growing each year. Combined with the amount due our government under the funding agreements the total per annum is now \$700,000,000 or more.

We are still making new loans, most or all of them to countries already our debtors. Many of these countries have a

reduced purchasing power and for that reason are borrowing from us to secure commodities they need. We buy their securities, i. e. we lend to them. They use the proceeds of the loans for purchases in the United States and our export trade is maintained.

Presumably in time this movement will be retarded. Demand for loans at least in some countries will diminish. The interest due us each year will be very large and perhaps not all of it will be reinvested. At any rate the volume of new flotations of foreign issues in our markets may decline. There will be something of a tendency for other countries to press their payments on us in the form of imported merchandise. Their reduced purchasing power leading to loans now with a consequent stimulus to exports may in time bring a marked growth in imports.

When this change comes there will be an interesting and curious development. These debtor countries may have a very high productivity and under other conditions a large purchasing power. Their products sent to us would be a demand for our goods, for our exports. But in so far as their products are sent us in payment of interest due on loans their goods will not be a demand for ours. Our exports will be curtailed as we receive what they owe us. Their purchasing power will be lessened in the future because we are lending them so much now. However, their aggregate productivity in the future and the total volume of foreign trade in the years to come may be so great that these items will be of only minor importance.

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FOREIGN CONSUMING POWER AND AMERICAN BUSINESS EXPANSION

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THE first quarter of the present century has furnished the greatest era of industrial and commercial expansion, together with the greatest development in transportation and communications, in the world's history.

The vast increase in production of goods and the improvement in means for distributing them all over the world have created many problems, and among them the question of whether there is sufficient consuming power to absorb present-day production without shutting down the industrial and commercial machinery of the world.

There is undoubtedly a steadfast belief on the part of American business men, if not of American economists, in a rising tide of wages, standards of living, and business prosperity, accompanied possibly by crests and troughs, but nevertheless always rising. This belief echoes the economic history of the world. Our problem is to make the rising tide flow in smoothly, without business storms with their crests of inflation and troughs of unemployment and suffering. In our own country production has been largely solved and now bids fair to run into overproduction. With a surplus on hand the next step appears to be distribution of this production to consumers all over the world and, following distribution, an accurate measuring and developing of consuming power, not only of our own country but of the entire world, before we resort to governmental aid to business or other untried remedies.

The markets of the world are now one market and should in the future be regarded as one. Nations, companies, and individuals buy and sell all over the world regardless of debts or other factors. International commerce has steadily increased from the beginning of history and as it has increased so has the world steadily progressed through the ages, and economic growth, production of goods, and finally higher standards of

living and culture have followed foreign trade and commerce, but have never preceded it.

If our problem were national only and we were isolated from the rest of the world, the solution would be much simpler. Cooperation in our industries, governmental expenditures in times of depression, and other devices would largely solve our problems. Under present conditions, however, America has responsibilities in the interdependent world market and there is no hope of extricating ourselves from them. Any assumption of economic independence by any nation today is absurd. We can control to some extent our own economic factors, but we are faced with the difficulty of being dependent on the rest of the world for so large a percentage of the goods for which we have created desires and which we must import, that we lose our independence on this count alone. We must have rubber, wool, chemicals, nitrates, silk, flax, hemp, jute, potash, nickel, tin, manganese, vegetable oils, tea, cocoa, rice, spices, coffee, and other foreign products.

Even if we were able to dispose of our surplus goods within our own boundaries, it would still be foolish not to take advantage of world markets. Of our total trade of some eighty billions nearly ten are foreign trade. Regulation of production by law would not help us to any great extent because it would limit us and would not control the rest of the world. Government expenditures for non-productive public works on a large scale are worthy of careful consideration, but are an unproven remedy for overproduction, unemployment and business depression. To the average business man government expenditures would probably appear to provide an artificial remedy which would have no beneficial effect upon, and might easily be more than offset by, business depression in other countries.

The foreign consuming power of the world, on the other hand, offers vast opportunities, not only for great expansion of our trade, but also for stability. With present-day means of transportation and communication, no economic discussion should be limited by national or political boundaries.

There is no necessity here for statistics on the economic situation of the rest of the world. For purposes of solving our own economic problems we may dismiss Europe from con-

sideration with the statement that for years to come there will be the usual interchange of manufactured goods and absorption by that continent of a certain proportion of our raw materials, but without much hope for helpful expansion of our trade in that continent.

If recent trends are an indication, it is probable that within five years over one-half of the world trade will be outside of Europe. At present about eighty per cent of our foreign investments are outside of this continent. The other three great continents (Africa, Asia and South America), containing the greater part of the world's population and therefore the bulk of its potential consuming power, the greater part of the world's undeveloped resources, with the richest soil and most equable climatic conditions, need no statistics to awaken visions of their effect on the expansion of our trade, the stabilization of our industries, as soon as we have sufficient imagination and energy to begin the simple process of widening the markets for American brains, methods of production, capital, surplus raw materials, and manufactured goods.

We do not know how much higher our own consuming power—the highest in the world—may be driven, nor do we know the exact methods for increasing it. On the other hand, we do know that the vast masses of other humans in the less developed countries of the three continents mentioned have at present an extremely low consuming power, and we also know that this power can be raised at least to approach our own level. Further, we have had experience and knowledge of sure methods for raising their standard of living and consequently their consuming power.

The greatest industrial organizations of today, those which are most stable, least subject to fluctuations in earning power and the steadiest in payment of dividends, are those which have a world market—telephone and cable, steel, oil, electric, etc. It logically follows that the greatest producing country should, for purposes of stability and expansion, have the widest markets. The fact is that business creates business. An enterprise as it grows becomes more and more a development of entirely new markets so extensive that competition and local depression have less effect.

Economists point to our tariff as hampering imports and to

the impossibility of selling to the rest of the world more goods than it can pay for. Nevertheless, the volume of our imports has steadily increased in spite of our tariff, and our volume of exports in spite of huge amounts owed us. Any lag in exports in recent years has been generally due to falling price levels and not to volume of business. Exports of American manufactures of unrivaled quality have increased steadily during recent years in spite of the alleged inability of the debtor world to pay. In other words, the economic theories least likely to work are those which fail to make allowance for higher standards of living and human growth, and for expansion of money and other necessary media for development, business expansion, and widening of markets.

In this discussion of utilizing the consuming power of the world outside of our own country as a means of expanding our own business, some limitations on international or foreign trade must be kept clearly in mind. First, there should be a definition of foreign trade, which we usually visualize as exports and imports made directly and requiring direct payments and directly affecting the balance of trade as between the countries involved. This does not correspond with present-day facts. Foreign trade today might better be defined as an international exchange of goods, machinery, capital, exactly similar to all economic exchanges which take place within any one country. It is no longer a simple matter of import and export with a few countries. Today it signifies world contacts and exchanging a national viewpoint for an international one.

Foreign trade should not include imperialism, which leads to discord and possibly war. Further, as an economic policy imperialism is of doubtful benefit. For instance, about one per cent of the foreign trade of Great Britain is with her African possessions. In the case of Indo-China, where French influence and laws give preference to France, the fact is that most of the trade of that dependency, both import and export, goes to other countries. Our own Philippine Islands have never been profitable as a possession.

Foreign markets should not be looked upon as a dumping ground for surplus products, but as places in which we can exchange our surplus of the goods which are most economically produced in this country for the goods which are produced under similar conditions in other countries.

Foreign trade should be developed carefully and consistently, just as we develop our industries within this country. It certainly should not be pursued to an extent which would involve lowering our own standards of living and wages. If removal of tariff protection involves lowering of these standards, we should accept the handicap of retaining the tariff, although it hurts our foreign trade. In other words, foreign trade should not be a scramble or fight for markets, but an orderly process of distribution of goods and capital governed by economic needs in various parts of the world.

There is to-day some difference of opinion among our best business men and economists as to whether there will be a surplus of goods after the next ten years. This should not, however, prevent our making intelligent plans for foreign commerce and extension of our markets in an orderly way, with confidence that power developments and mechanical inventions will continue to add to our capacity for production in the future as in the past. There is, in any event, a rather strong consensus of opinion that we cannot find an outlet for surplus capital in our own country. It is quite possible that investment of banking capital abroad may become the most important factor in our export trade.

Development of international trade should not be considered a remedy for any industrial crisis which may be facing us within the near future. The building of such a trade is a slow process over a long period of years, but once built it does offer the most nearly permanent proven remedy for business depression and means of stabilization in any given country.

National Foreign Trade Council figures show that the world is short more than two hundred billion dollars' worth of exports which would have been added to international trade except for the economic disturbances caused by the world war. In 1913 the seventy-two nations doing ninety per cent of the world's export business had a trade of over nineteen billion dollars. Twelve years later, in 1925, the corresponding figure stood at only twenty billion dollars, allowing for reduction to the 1913 buying power of the dollar.

For thirteen years preceding the war the annual growth in world exports was a little over six per cent, allowing for the inflation of gold. In twelve years since 1913, there has been

an increase of only three and four-tenths per cent in the actual value of exports circulating in the world. Had the pre-war growth continued, the world would have been doing over forty billions of export trade at 1913 values, instead of twenty billions, the actual figure. At 1925 dollar values it would have been over sixty-two billions instead of just over thirty billions.

In the last three years there has been a gain of more than ten per cent annually in world exports, but even at this rate it will take years to make up ground lost during the war. Our country has gained almost thirty-two per cent in exports since 1913 and has made the greatest gain of all nations in volume of trade acquired; yet we are more than two billion dollars behind the export trade we would probably have enjoyed if the pre-war gain had been uninterrupted. We are at least ten years short of catching up with our normal foreign trade, and the rest of the world is at least thirty years in arrears.

During the last quarter-century means for transportation—ships, motor cars, airplanes, roads—and facilities for communication—telephone, telegraph, wireless—have enormously increased. Our own country leads in development in all of these instruments of modern commerce. The automobile, unquestionably the largest single factor in our present prosperity, will undoubtedly do for the rest of the world what it has accomplished for us. We produce ninety per cent of the automobiles of the world. In the marketing of this product alone throughout the world we have a vast opportunity for stabilization and expansion of our own industry.

Latin America is the one trade area of the three vast ones mentioned which we should especially cultivate. Geographically and politically it is the most favorably situated, and its countries are and will remain for a long period of years agricultural and will need our manufactured goods. A large proportion of our foreign loans are now in South America and banking connections have been made. The influence of the motor car has been felt and this has started for the first time in the history of Latin America the era of road-building, the one essential factor in releasing the vast potential wealth of these countries. It is safe to predict a greater growth in Latin American trade in the next ten years than we have witnessed in all the years since the Spanish Conquest.

An example of the possibility of increasing consuming power in undeveloped countries is the case of my own company, fifteen years ago doing a merchandise business of three million dollars in the undeveloped coastal regions of the Caribbean, and to-day doing a business of ten million dollars, and this with a negligible increase in population.

Surely the facts presented must convince us of the importance of the latent consuming power of the undeveloped continents as a possible means of stabilizing and expanding our own commerce.

It is impossible to see how we can attain our ideals without an exchange of goods, especially with the undeveloped countries. Such an exchange is necessary to enable backward nations and peoples to raise their standards of living and consuming power. Our own growth was at first entirely dependent on the entry of England and Europe into foreign trade. If we now withhold our methods of production, splendid machinery, capital, and business experience from the rest of the world, we shall delay for many years the progress of all mankind, including ourselves. Our economic future depends directly upon our own vision and initiative. We should begin immediately to take our rightful place in the markets of the world.

THE RELATION OF INTERNATIONAL DEBT PAYMENTS TO DOMESTIC PURCHASING POWER

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THE paper which follows is an analysis of principles rather than a study in statistics. The central problem is the relation of international debt payments to domestic purchasing power. This question has two sides, namely, domestic purchasing power in the debtor country and domestic purchasing power in the creditor country. My central proposition is that the payment of international debts reduces domestic purchasing power by an amount equal to the payment in the debtor country, and increases domestic purchasing power by the same amount in the creditor country. Under varying conditions, which I shall analyze, this proposition will need qualification, particularly with respect to the amount of time required for the principles to work out.

The Essential Preconditions

In one extreme case the proposition clearly is not true. When the movable wealth of the debtor country is forcibly seized and thrown upon the markets to bring what cash it may in payment to the creditor country, the loss in domestic purchasing power in the debtor country far outweighs the gain in domestic purchasing power in the creditor country. This was exemplified on a great scale in connection with the seizure and sale of Germany's mercantile marine and other movable assets in the period following shortly after the War. The loss to Germany was enormous, and the gain to the Allies was not very great. It has been true also at times in connection with deliveries in kind under governmental control. Governments are not good merchants. They can easily demoralize markets by their clumsy efforts at merchandising. I hasten to add that deliveries in kind under the Dawes plan have involved the cooperation of merchants and producers, and have been de-

signed to obviate difficulties of this sort. The proposition that the gain to the creditor equals in money value the loss to the debtor in money value is maintained only on the following assumptions: (a) that ordinary commercial methods are used in making the payments, (b) that both debtor and creditor countries are firmly fixed on the gold standard, and (c) that the world's markets are reasonably open to the international movements of goods.

Further qualifications are necessary. (a) The magnitudes of the payments must bear a reasonable relation to the wealth and income both of the debtor and of the creditor. In this connection, it may be observed that the sums to be transmitted from Europe to the United States make a very much bigger percentage difference to Europe than they do to the United States. The combined annual income of Great Britain, France, Italy and Belgium is decidedly less than the annual income of the people of the United States. (b) Serious complications can arise if only one large payment is made, and complications somewhat less serious may arise if large annual payments are suddenly inaugurated, whereas if the payments begin with moderate annual installments and work up gradually to large sums the process of adjustment may be relatively simple. Conversely, it may be noted that a high schedule of payments, established for several years and then suddenly ceasing, may likewise bring about serious problems of adjustment which could be avoided if the schedules contemplated a gradual tapering off toward the end.

The Process of Payment of International Debts

Given favorable conditions with reference to the foregoing points, the process of the payment¹ of international debts is as follows:

1. The debtor country accumulates through taxation within its own borders a fiscal surplus, an excess of taxes over public expenditure, equal to the payment that has to be made in a given year.
2. The creation of this fiscal surplus means that the people of the debtor country have just that much less to spend than

¹See *Chase Economic Bulletin*, Vol. I, no. 4 and *ibid.*, Vol. IV, no. 1, with reference to this matter.

they would otherwise have to spend, and reduces their domestic buying power by this amount.

3. This fact alone means that the prices of commodities in the debtor country tend to be lower than they would otherwise be, since the people are producing more than they are able to buy at the prices which would otherwise have prevailed.

4. This makes the debtor country a good market in which to buy and a poor market in which to sell, and, consequently, tends to increase its exports and to diminish its imports.

How the Foreign Exchange is Absorbed

5. Consequently, there is an increased demand in the foreign exchange markets of the world for drafts and bills drawn in terms of the currency of the debtor country on the debtor country, and also a reduced supply of such drafts and bills. The exchange markets are, therefore, ready to absorb an increased amount of exchange drawn on the debtor country.

6. Under these conditions, the stage is set for the next step, which is the sale by the debtor country of its own currency in the foreign exchange markets in order to obtain the foreign currencies needed for making payments in the creditor countries. As the debtor country presses the sale of its own currency in the foreign exchange markets, it forces the price of its exchange toward, or to, the lower gold point, and this lowered price of its currency in the foreign exchange markets gives an additional advantage to its exporters and imposes an additional handicap upon its importers, tending still further to increase its exports and to reduce its imports.

7. If the exchange rate of the debtor country is forced down to the lower "gold point," so that an outflow of gold begins, the central bank in the debtor country will be obliged to raise its discount rate with a general tightening of the money market. This gives an additional incentive to domestic producers and exporters to market their goods, and imposes an additional limitation on importers in the purchase of foreign goods, with the result that exports are still further increased and imports still further retarded.

How the Payments are Received

8. Meanwhile the receipt by the creditor country of funds in its own currency obtained from the sale of the debtor's currency in the foreign exchange market increases the aggregate income of the creditor country. There are three uses which the creditor government may make of the funds thus received: (a) it may remit taxes by an equal amount, which increases the buying power of the general public; (b) it may spend the money itself, again increasing the combined buying power of the public and the government; or (c) it may use the funds in paying off public debt, which puts new funds into the capital market, which will be invested and spent, again increasing the aggregate buying power of the country. Under these conditions, prices tend to rise in the creditor country and the creditor country becomes a good market in which to sell and a poorer market in which to buy. Its imports, therefore, tend to increase, and its exports tend to be checked. The increase in its buying power enables it to absorb a correspondingly greater volume of goods. If, in the process, some gold comes in, this tends to relax the money rates, which makes it easier for exporters and producers to hold back goods from the markets, and makes it easier for importers to finance goods from foreign markets, tending still further to increase the imports and to diminish the exports.

The Quantitative Balance

The foregoing analysis shows the way in which the mere fact of debt payments through the creating and transferring of a fiscal surplus via the exchange markets from a creditor to a debtor country leads to increased exports and diminished imports in the debtor country and to increased imports and diminished exports in the creditor country. In principle, the gain in imports plus the loss in exports in the creditor country should equal the gain in exports plus the loss of imports in the debtor country, and the fiscal surplus transmitted should be an equal amount, while the amount of money received by the creditor country should equal any one of the other three quantities.

Smoothing out the Discrepancies—Exchange Rates and Prices

There are certain minor discrepancies in these relationships. The amount received by the creditor country will be less than the amount paid by the debtor country to the extent that the exchange rate of the debtor country is depressed toward the lower gold point. Further, since incomes in large measure come from the sale of goods, there will be a secondary loss in domestic purchasing power in the debtor country, and a secondary gain in domestic purchasing power in the creditor country, to the extent that the forces at work have made different price levels in the two countries. But here again equilibrium factors are at work which limit very definitely these differences. The losses in exchange are limited under the gold standard to variations within the gold points. The discrepancies in price levels might in certain cases be substantial, but, properly handled, need not be. This point will be amplified in the next paragraph.

The tendency toward lower prices in the debtor country is initiated by the reduction in the income of the people through taxation, which is not made up for by increased expenditure on the part of their government. The creation of a fiscal surplus for transfer means that the people and their government are unable to consume at current prices all that the people produce. Domestic purchasing power is reduced by the amount of the fiscal surplus, and the ability of the people to resist foreign demand is correspondingly weakened. When, however, the fiscal surplus is fully transmitted, and goods in equivalent amount have been taken out, the ability of the people to resist further foreign purchases is restored, and their prices tend to come into equilibrium with world prices again. Conversely, when the full amount has been transmitted to and spent by the creditor country, its ability to outbid other countries in the international markets for goods ceases, and its prices tend again toward the world level. In the foregoing analysis it was assumed that a full year's fiscal surplus was created and a full year's accumulation of funds was made before transfer began. This is a needless assumption. If the payments are made monthly or, for that matter, if the debtor country will make monthly purchases of foreign exchange out of the fiscal surplus being created for the purpose

of making the international payments, the price movements may be very slight, while, with a skillful day-by-day purchase of foreign exchange in moderate amounts, with remittances at frequent intervals of moderate amounts to the creditor country, the disturbances and discrepancies can be almost entirely removed. An enduring equilibrium can be reached, with prices in the debtor country only slightly lower than they would otherwise be, and with prices in the creditor country only slightly higher than they would otherwise be, and with the exchange rates averaging only a little lower than would otherwise be the case.¹

Domestic Purchasing Power in Debtor and Creditor Countries

Under these conditions, we can assert the following approximate equivalences: increased imports plus diminished exports in the creditor country are equal to increased exports plus diminished imports in the debtor country; either of these is equal to the fiscal surplus created for transfer; this fiscal surplus created for transfer is equal to the payment received by the creditor country; and either of these sums is equal to the reduction in purchasing power in the debtor country and to the increase in purchasing power in the creditor country.²

The Movements of Goods, and Adjustments in Production and Consumption

There are yet a number of complications to be considered. I have been assuming that the markets are reasonably open to the international movements of goods, not only in the creditor country, but also in other countries. If only the debtor and creditor countries had trade relations with one another, and if the debtor country produced goods of a kind which the creditor

¹ A third discrepancy is possible, so far as the commodity export and import equation is concerned, to the extent that actual gold is used in payment. This may be very substantial if one large payment is made, or if a heavy schedule is suddenly inaugurated, but is of minor importance in any long schedule of payments.

² The analysis ignores emigrants' remittances, tourists' expenditures, and a number of similar "invisible items" in the international balance sheet. Their inclusion would complicate the statement of the case, without altering the essential conclusions. In a statistical study they would have to be dealt with, of course.

country could not easily use—if, for example, both were primarily agricultural countries with similar latitudes and climatic conditions—the difficulties would be great, if not impossible. But where each country has widely diversified production and where the general world markets are reasonably open, the problem is simple. The debtor country increases its exports of a variety of products to whatever countries in the world are prepared to pay most for them, and the creditor country increases its imports of a variety of products from whatever country is prepared to sell them most cheaply. The creditor country would ordinarily increase substantially its direct imports from the debtor country, but might easily take part of its increased imports from a third country which produces things for which it had more use and at prices which it liked better to pay. The milreis exchange produced by German manufactures sent to Brazil, for example, might be used by France to pay Brazil for coffee which she wished to import; and the dollar proceeds of German manufactures sold in the United States might be used by France to pay for cotton purchased in the United States.

When, however, trade restrictions are multiplied, complications arise, and the narrower the channels of international trade, the greater is the difficulty in increasing the flow of international payments.

If, for example, the creditor country refuses to receive an increase in imports, the problem may become one of extreme difficulty. Receipt of payment does not in that case take place by an increase in imports, but rather by a reduction of exports. If the goods formerly exported by the creditor country are goods which it can use at home as, for example, food in an impoverished country whose people would gladly eat more if they could afford it, then the check to exports constitutes a gain to the creditor country. Its people are better fed than before. If, on the other hand, the creditor country is rich and its people are already abundantly fed, and the check to its exports affects an agricultural surplus, then serious difficulties may arise.

Given time, the creditor country can make a readjustment which will enable it to receive payments even without receiving an increase of imports. It may submit to a permanent reduc-

tion of its agricultural exports. It may increase its production for the domestic market, not only of goods, but also of services. Reducing agricultural exports and agricultural production, it may shift part of its agricultural population to factory work, domestic service, or other types of non-agricultural activities. When the adjustment is completed, it can, by virtue of the payments that are being made to it, enjoy a larger consumption in the aggregate than before—an increase in consumption equal to the payment received and equal to the diminished exports. But the process may be prolonged and painful and involve serious financial losses. During the process there may be such disorganization of trade as to mean that the net result is loss rather than gain in domestic purchasing power.

Such a country, on the other hand, if it were willing to receive additional imports of manufactured goods, could readily absorb them, since manufactures take diverse forms, appeal to the higher and not easily satiated wants, and the increased imports of manufactures given in payment of debts would not diminish aggregate demand for domestic manufactures, though they might alter its direction. When such goods, given in payment of debts, are sold in the markets of the creditor country and the proceeds turned over to the government, they really pay for themselves, since the funds turned over to the government constitute, as we have seen above, a net addition to the buying power of the country as a whole.

The Influence of Foreign Loans

The analysis, so far, has ignored the matter of lending on the part of a creditor country and borrowing on the part of a debtor country. If private investors and bankers of the creditor country will lend to the debtor country, in the course of a year, the funds which it needs to make the current payments, this obviously increases domestic buying power in the debtor country which checks the export of goods and facilitates the import of goods. If exactly as much is lent by the creditor country to the debtor country as the debt payment amounts to, obviously export and import relations in both countries are unaffected by the debt payments. If the creditor country lends to other countries in the outside world, whether to the debtor country

or not, it may, while such loans continue to be made adequately, prevent an increase in its imports or a decrease in its exports. It is obvious, however, that transactions of this kind merely defer the problem. If the debtor country borrows as much as it pays, it is not paying its debt, but merely shifting its creditors. If the creditor country lends as much as it receives, it is not receiving payment but merely shifting its debtors.

The problem is not merely deferred by transactions of this kind, it is also intensified. The debt grows under these conditions by compound interest, and the annual loans required on the part of a creditor country, to keep a given relation between its exports and imports, grow increasingly. The efficacy of foreign loans in protecting a trade balance steadily diminishes. With respect to this point, the following figures for the United States are significant and interesting:

EXPORTS AND IMPORTS OF THE UNITED STATES AND FOREIGN SECURITIES¹
PLACED IN THE UNITED STATES (1921-1926)

(In thousands of dollars)

<i>Year</i>	<i>Exports</i>	<i>Imports</i>	<i>Excess of Exports</i>	<i>Foreign Securities</i>
1921	4,485,031	2,509,148	1,975,883	526,517
1922	3,831,777	3,112,747	719,030	631,211
1923	4,167,493	3,792,066	375,427	267,085
1924	4,590,984	3,609,963	981,021	996,570
1925	4,908,743	4,224,226	684,517	1,086,161
1926	4,808,465	4,430,890	377,575	1,145,100

In this connection it may be observed that the tendency toward easier money in the receiving country and dearer money in the paying country would naturally lead to a certain amount of lending by the former and borrowing by the latter, and this tendency is especially to be relied upon to ameliorate unusual tension which may arise at times in the process of payment. This aspect of the matter has been greatly exaggerated in recent years, however, by the altogether abnormal expansion of bank credit in the United States, growing partly out of our very excessive gold holdings, and partly out of the rediscount and open-market policy of the Federal Reserve banks. In the absence of this the volume of our foreign loans would have

¹ Refunding excluded.

been smaller than it has been, and continued bank expansion cannot safely be relied upon as an indefinite source of loan funds in the future.

Intergovernmental Debts and Private Foreign Investments

In conclusion, let me say that the problem of transferring intergovernmental payments is in all essentials the same as the process of transferring payments on private international debts. The difference between them comes, not in the process of transfer, but rather in the process of accumulating the funds to be transferred. It is ordinarily easier to pay interest and amortization on debts privately contracted for commercial and industrial uses than it is to pay interest and amortization on war debts contracted by governments, because the debts privately created have usually given rise to increased production and increased paying power, whereas war debts are usually contracted under circumstances which diminish the wealth and income of the borrowing country.

It is further to be noticed that so far as the position of the United States to-day is concerned, international debt payments are primarily payments to private creditors rather than to the United States Government. So far as the transfer problem is concerned, the interallied debts are very decidedly less important than the debts to private investors, in annual dollar volume. With the continued growth of our foreign investments, this will be increasingly the case for many years.



PART III
GOVERNMENT EXPENDITURES AND
BUSINESS STABILITY

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FEDERAL EXPENDITURES AND THE CONSTRUCTION INDUSTRY

HON. WESLEY L. JONES

U. S. Senator from Washington; Chairman of the Committee on Commerce

THE people seem to think that a member of Congress knows all about every question that is brought to his attention. This is a very high compliment, but it is most undeserved. There may be some members who think they are competent to advise those engaged in any line of business how best to run their business. I am not one of them.

I am not a business man. I have never engaged in business. It is not for me to tell the business man what his problems are or how to solve them. He knows his problems better, or ought to know them better, than anyone else; and those who know the problems best are best able to solve their problems.

As a legislator I feel that I can best serve the people by getting the advice and counsel of those who have a practical knowledge of the problems to be met. I often find that what appears to be an ideal solution of a problem from a theoretical standpoint is clearly impractical when tested by actual experience. Therefore, instead of my telling men of affairs how to run their business, I feel that I can best serve them by seeking their counsel and advice. The banker who is honest and patriotic, and most of them are, is better able to suggest a way to meet his problems than a man who knows nothing about them, no matter how learned he may be. And so it is with the merchant, the manufacturer, the farmer and the laborer.

Consequently, when I am asked to tell the business man how to manage his business so as to bring him the best results as well as to furnish more steady employment to labor, I cannot help but feel I am on dangerous ground.

It does not take an experienced business man to realize that steady employment for capital and steady employment for labor are very desirable. How to bring this about is the problem that calls for practical knowledge and experience together with ability and a certain modicum of unselfishness.

There are many earnest, practical men working on this problem, the solution of which means so much happiness to men and homes and stability to business. If our business men will determine the principles to be followed in meeting the situation we will work out the legislative phase of it.

Near the close of the last session of Congress a resolution was introduced by Senator Pepper providing for the appointment of a committee to study the problem of stabilizing industry and business so as to minimize if not do away with the cycles of business depression that have affected business in the past. The Commerce Committee, of which I am Chairman, reported it favorably but it failed to pass. As Chairman of the Committee I have been asked to discuss the problem involved. I feel my inability to do so. I want to get information rather than to give it.

There seems to be general agreement among economists concerning the principle of a Federal "prosperity reserve" for public works in order to expand public works during periods of depression and to do less than the average during periods of active industry. This was recommended by President Harding's Conference on Unemployment, in 1921. In 1922 Senator Kenyon, of Iowa, introduced a bill to authorize the President to advance or retard the commencement of certain forms of public works in accordance with the condition of general business, which attempted to put into legislation the recommendations of the Unemployment Conference. This bill did not pass, but Congress made a large appropriation for public roads with the specific understanding with the governors of a number of states that the work would be undertaken as rapidly as possible during the then prevailing unemployment. Municipal bond sales had been stimulated by the President's Conference on Unemployment for the purpose of expanding public works.

Administratively the principle has been tested. In 1923, when business was active, Secretary Hoover advised the President that it would be unwise to undertake a Federal building program at that time because it would compete with private employers for the same men and materials, and might pyramid the costs for both. As a result the Federal Government did not start its public building program until 1926, and then on a

very small scale. The Senate Committee on Public Buildings, of which Senator Furnald was Chairman, agreed to an amendment calling upon the Secretary of the Treasury to take into consideration the relative activity of private construction, and to be prepared to expand public buildings work when private construction should fall off.

During the recent session of Congress, Senator Pepper appeared before the Senate Committee on Appropriations proposing that in addition to the usual appropriations for public roads there should be a special authorization for the same purpose to take effect only when private construction should fall one-third below the volume of 1926. The Senate Committee on Appropriations did not feel that it had jurisdiction to introduce this principle as new legislation, and therefore Senator Pepper introduced the resolution to which I have referred and which did not come to a vote because of the crowded condition of the calendar during the closing days of the session.

The basic principle of expanding and contracting Federal appropriations to correspond with fluctuations in the price level of labor and materials has of course also a large field of possible application in appropriations for Federal supplies, although here it would doubtless be more difficult to secure effective regulation. In the sums of money and magnitude of operations involved the greatest application of all is doubtless in the field of state and municipal finance, but for that fortunately we are not responsible in Washington, or at least only indirectly. We have troubles enough of our own. Of course many of the Federal appropriations for public works such as public roads are made on condition that they shall be matched by like appropriations on the part of the states. Presumably if the "prosperity reserve" were adopted as a policy it would exert a great influence upon the adoption of a similar policy to be applied to the matched appropriations of the states. Certainly the example of the Federal government would have a far-reaching influence upon both state and municipal expenditures.

As I stated at the beginning I am unable to do more than say, with regard to this proposal, that I view it with interest and that it merits further study and examination, as was pro-

vided for in Senator Pepper's resolution, which the Commerce Committee reported favorably. The Department of Commerce has been studying this question for several years and many closely allied problems as well. It has helped me to get together some facts and suggestions on stabilizing construction, which is a very important part of the basic problems involved in the "prosperity reserve" proposal and in any consideration of government expenditures in relation to stability of employment and consumer purchasing power. These I give to you in the hope that they may be tested by the experience of practical business men, and that which is good may be used and that which is bad may be rejected.

From my study and from what I have heard this afternoon, I find that great strides have been made in stabilizing construction. The remarkable trend in the construction industries, in distributing building activity more evenly during the twelve months of the year, is among the outstanding achievements in American industry during the past four or five years. The average building trades worker has been employed probably a fifth or a fourth more days in the year than before the World War. This means directly that building trades workers have not had to go through so many nerve-racking periods of unemployment, and it means that our recent building programs have been executed with at least a hundred thousand fewer building trades workers than would otherwise have been possible and yet with more steady employment for all.

The toll which the American people were directly or indirectly paying because of the fact that their construction program was on a seasonal basis, late in getting under way in the spring, not reaching its period of great activity until June, July, or even August, and falling off sharply after September, with a virtual shutdown during the winter months, becomes apparent when it is realized that from six to seven billion dollars a year, or from seven to ten per cent of the total national income, is devoted to new construction each year. This enormous total exceeds the annual value of the nation's exports or imports and is comparable with the gross operating revenues of its railways. In addition to the hundreds of thousands of building trades workers who are employed directly in construction, a steady building program penetrates into every

avenue of our social and business life. A few illustrations will make this clear.

Active building means, first of all, that building trades workers are well employed, and that they and their families, a very substantial element in our population, are receiving a steady income. It means that they are good customers of retail stores. This furnishes business to manufacturers and farmers and diffuses prosperity on all sides. When building falls off, on the other hand, as it did customarily in the winter months, the baker, the grocer, the butcher and practically all other retailers suffer. The stoppage of purchases by builders and contractors and the limitation of the purchasing power of the unemployed in the construction field also affects employment in other fields of production. Without new orders there is a decrease in activity and employment in plants producing lumber, brick, cement, iron and steel, tile, glass, hardware, pipe, lath, lime, doors, sheet metal, stoves, furnaces, radiators, plumbing equipment, bath tubs, lighting fixtures, elevators, paint, varnish, stains, wall paper, and a hundred other items running into hundreds of millions of dollars annually. Practically all the people in great areas where lumbering is the leading industry face hard times when building slackens. Many a small town in which building material plants are located suffers likewise. The retailers, wholesalers, and producers of building materials, adding their overhead expenses during the winter to the cost of doing business, either lose money, make smaller profits, or have to pass part of the added cost on to the purchaser. Periods of unemployment in building have often prevented home ownership, resulting in the lapsing of many insurance policies and have kept large numbers of children from receiving the educational training they would otherwise have received.

Thus far we have been considering in the main the immediate effects of our custom of limiting building to times of favorable weather. Let us look back of a large construction program which includes not only homes, apartments, schools, hospitals and other kinds of buildings, but roads and harbor works. Beyond employment for the building trades worker, an active building program means employment to truckmen delivering materials from cars, vessels, warehouses, or storage

yards. Back of this we find increased employment in thousands of retail establishments, followed by the placing of new orders with producers, and these new orders mean increased transportation both by rail and water and increased employment in factories and shops. It requires thousands of cars and scores of ships to transport the lumber used in New York City alone during a single year, most of it coming from distant points, such as the South, the Great Lakes states and the Pacific Northwest. It takes about one ton of coal to burn one thousand bricks, one ton of coal to produce three tons of lime, and about one ton of coal to produce three tons of cement. Stabilizing construction tends to stabilize the use of coal cars and the output of coal at the mines which means more steady employment for the miners. Stabilizing construction tends to stabilize transportation, mining, manufacture, and vending, to a considerable degree. Back of the steel used in construction come delivery, rail and water transportation, activity in rolling mills and blast furnaces, ore shipments, and mining. Furthermore, it affects the present uneven production of hundreds or thousands of different articles of hardware.

These were some of the considerations which until four or five years ago only a handful of men of unusual insight were beginning to study. An occasional business man of vision expanded a plant at times when plenty of building trades workers were available, and an occasional home-owner left his repairs until a time when a friendly contractor promised that he would be able to give him the services of some of his best men.

But the inertia of centuries of traditions kept building and general construction work a highly seasonal activity. It seemed natural to the prospective home-builder to start building in the spring in order to have a home finished by autumn. It was natural for contractors and building-material dealers to make the greatest efforts for new business at the time when prospective owners were most likely to think of building.

No single group could act alone to put building on a year 'round basis. In 1923, however, a systematic program to unite all groups in a program to make an immediate attack on the problem was devised. The President's Conference on Unemployment, on its adjournment in October, 1921, had recom-

mended a continued study of the causes of periodic unemployment and means of remedying them; and a Committee on Business Cycles and Unemployment, as a result of more than a year's hard work, had suggested some ways for business men to reduce periods of business depression and unemployment. It pointed out that building booms and slumps in the past had actually aggravated the excessive ups and downs of general business activity, whereas construction, taking the nation as a whole, should be used as a balance wheel, speeding up when other industries were slack, and not competing for labor and materials when they were at a peak. But how could prospective builders and all the different groups connected with the construction industries be made to start projects, or hold them back, so as to come at a time when building trades workers and an adequate supply of materials would be available? This problem was very much the same as that of remedying seasonal variations in building activity—in either case the industry and prospective-building-owners would have to plan ahead. A number of leaders in various industries and professions connected with construction saw the need for concerted action, and arranged to cooperate with the Department of Commerce in making a study of seasonal operation in the construction industries. A committee was formed, including representatives of building material manufacturers and dealers, real estate men, building trades labor, construction, finance, engineers, architects and contractors. The division of building and housing of the Department of Commerce was asked to obtain the facts on which constructive recommendations could be based. After a year's study the division reported:

Building trades workers in the average American city, it appears from the information gathered in this survey, are employed less than three-fourths of the time at their trade. In the average year these men must be paid enough to support themselves and their families for twelve months on wages received for seven to ten months' work. For most contractors, twelve months' overhead costs of maintaining their offices and staff must be charged against the jobs carried on actively during seven or eight months.

Building supply dealers must maintain establishments big enough to handle a large amount of work during four or five months. These establishments are practically idle during at least three months, and are operating at only a fraction of their capacity during the rest of the year.

Building material manufacturers also have to maintain unnecessarily large plant and equipment or else stock up materials during dull seasons in order to meet peak demands. This of course adds to the cost of their product.

Architects find their office work crowded largely into the first six months of the year, although their field work is often active for some months later.

Intermittent employment conditions keep young men from taking up the building trades, and account in large part for the high hourly wage rates which have lately attracted so much public attention, and give a false impression of actual earnings.

It was found that custom, not climate, was mainly responsible for seasonal idleness in the construction industries, and that cities in the South and on the Pacific Coast were affected much like those on the Canadian border. Practically all the cities studied showed a large percentage of idleness in the building trades, not only from December to March but in other months as well. The difficulties of outdoor construction during winter weather have been lessened by modern methods and materials, and stormy or excessively cold weather was found to interfere with outdoor building probably less than fifteen full working days during the months from November to March in New York. Furthermore, it was found that concrete and masonry work could be well protected from freezing, and that the quality of construction need suffer in no way from cold weather. All that appeared necessary was to get away from old customs and habits of mind. The committee showed the importance of local campaigns based on careful study of the facts by all groups interested. In some communities uniform leasing dates, particularly in the autumn, caused speculative builders to complete a large number of projects at the same time and increased the peak in the business, not only of builders and real estate men, but of telephone, gas, electric, storage, warehouse, and public service companies.

The recommendations showed each group connected with construction how it could help. They received very wide publicity and the situation has improved substantially. Not only has employment in the building trades become steadier, but a striking change in attitude toward the problem has taken place. Builders now tell their customers that the winter is the best time to undertake minor repairs, and the average home-owner

sees the point. It has become the custom rather than the exception among architects and engineers to consider the probable supply of building-trades workers and materials available in timing the commencement of a building project. This attitude has kept building costs remarkably free from inflationary tendencies during the past few years of active building and may well be credited with a share in preserving generally prosperous business conditions.

Some of the local group efforts, such as that of the New York Building Congress, have had excellent results. A basic study of employment by months in each of the principal building trades showed the months in which there was customarily unemployment. These data have been used as a basis for a series of appeals stressing the importance and advantages of stabilized building activity. In many cases where owners have started work during a period of peak activity they have wisely suspended operations until men became available, whereas formerly it would have seemed natural to them to bid against each other for men and materials. In New York the Building Congress has summarized the case for winter building on large structures, as follows:

1. The direct additional costs due to construction carried on in cold weather are but a small percentage of the total cost of a building.
2. Such direct winter costs are more than offset by savings in other ways.
3. These conditions extend down the scale at least to operations as low as \$100,000.

The indirect savings, which more than counterbalance winter costs, may be enumerated as follows:

1. Elimination of labor bonuses.
2. Reduction of labor turnover.
3. Spread in overhead expense of contractors throughout the year, reducing organization and equipment costs.
4. Tendency of contractors to lower their margin of profit with the idea in mind of securing sufficient work to keep their organization intact during the winter months.
5. Seasonal discounts on materials.
6. Seasonal rates by transportation companies in order to relieve the congested periods.

7. Saving of interest and taxes on investments lying idle.
8. Earlier returns on investment.

It has followed up such statements with many appeals like the following which have been a feature of similar campaigns in many other cities.

1. Painting and paperhanging: Do interior painting and paper-hanging from December to April.

2. Plumbing: Make alterations and additions from December or January to April. Clean out grease-traps when houses are closed; do not wait until they are open again.

3. Heating: Overhaul and repair your heating plant when you shut down in the spring; plan major repairs and replacements of heating plants during the winter so that work can be started April 1.

4. Electric wiring: Overhaul fans, motors and other equipment from January to March.

5. Masonry, Carpentry, Plastering, Lathing, etc.: Do miscellaneous interior remodeling, patching of plaster, etc., from December 1 to April 1. This is a good season to replace fences, and outdoor work on steps and porches may also be done at this time.

6. Screens and Awnings: Arrange for these during the fall and winter months.

In Rochester, New York, a Community Conference Board, including representatives of the City Government, Board of Education, Chamber of Commerce, Real Estate Board, Builders' Exchange and architects, makes a monthly survey of employment based on reports from contractors. The amount of prospective building activity is analyzed and made public. When a slackening appears imminent, owners are urged to undertake work which will keep building trades craftsmen employed. As one result the Board of Education in that city authorized 38,000 hours of repair and remodeling work during one winter, of which over 18,000 hours was of a type formerly done during the summer vacation period. It has been estimated that the building season has been lengthened by at least twenty per cent in that city.

Philadelphia, Boston, Portland (Ore.), and St. Paul are other cities in which active campaigns to promote winter building have been carried out.

In practically every city in the United States extensive building operations during the winter are becoming commoner each year. The organized group efforts are succeeding.

A substantial contribution to the movement has been made by groups representing producers of building materials and seeking to stimulate winter building. Some of them, working with progressive contractors, have improved the technique of winter work so as to avoid dangers from defective construction.

In the field of road-building, contractors have cooperated with state government officials in many states in programs for putting highway construction on a stable economic basis. In some cases contracts are let in the fall and winter for work to start in the spring, in order that contractors may move their equipment and some of their materials to the job and be ready to start with the first good weather. In other cases a special effort is made to award contracts in the late fall for grading and such other work as may be carried on during the winter months. In Illinois the chief highway engineer reports that the greatest volume of contract-letting occurs from November to March and that it enables him to utilize his engineers for surveys and preparation of plans during the fall and winter months and for construction during the construction season. This not only avoids lay-off of forces and consequent turnover, but also distributes the transportation of road materials over a longer period of time and helps to stabilize the construction industry.

Studies made by the Department of Commerce indicate that the period of full employment for building-trades workers, which formerly was not commonly reached before June, July, or even August, is now reached earlier in many cases, and that instead of extending only two or three months it is apt to continue until very near the end of the year. There is a third to a half more employment of building-trades labor during the three winter months now than was the case five years ago.

This more even distribution of building during the twelve months of the year has enabled the American people to carry out larger construction programs each year and obtain more for the money that they have put into construction. At the same time many thousands of men, probably more than 100,000, who might otherwise have been required for construction, have

been available for other tasks. Practically every owner of a new building has profited directly or indirectly from the work which has proceeded during the winter months, and millions of workers in many different industries have benefited from steadier employment and higher annual earnings.

The movement for seasonal stabilization has not been confined to construction. The Association of Railway Executives took up the problem of placing its maintenance of way and construction repair work on as nearly a stable basis as possible. According to an analysis by the Department of Commerce,—

the subject was brought before meetings of railway officials and technical experts, and the practical results are shown by the fact that for every hundred men employed during the most active month of the years 1924 and 1925, respectively, 78 and 77 men were employed during the least active month. In 1922 and 1923 the corresponding figures were 69 and 70. The average monthly variation from the yearly mean has decreased from 11.4 per cent to 8.2 per cent in five years. This one field in which the regularity of employment of several hundred thousand men is affected, is a concrete illustration of what has been accomplished in a branch of the public utilities where stable operations are especially hard to maintain.

The construction industry has set out to make its business year steadier. It is doing this in a fine spirit of cooperation among the various groups of which it is made up. Architects, contractors, labor union officials, and others have united in frank recognition of the fact that alternate periods of great activity and dullness are bad for the industry, unfair to the people who pay for completed construction, and unnecessary. It may well serve as an inspiration and example to other groups—and there are many who are wrestling with the same problem.

You may wonder when I am going to reach the question that the Chairman said I was going to discuss, that is the matter of cooperation upon the part of the national government. I have discussed that just about all that I am going to discuss it. I do want to say this, as I said in the beginning, that the practical business men, the men who are experienced and intimately acquainted with the problems that they have to meet, are the best men fitted to submit to Congress the problems that face them and the solution of those problems from the practical standpoint.

What I should like to see during this vacation, instead probably of the resolution that failed of passage, is the appointment by the business men who are interested in this proposition (and they all are) of a committee of outstanding business men to consider the various phases of this problem during the summer and, if they possibly can, unite upon the method which they believe will solve it. Then let them come to Congress with a concrete plan and submit it to the Committee, with their reasons for the conclusions that they have come to. That would be a greater contribution to the solution of this problem than would come if any committee of Congress should start out to attempt the solution of problems about which many congressmen know little, from a practical standpoint.

A movement that means so much to capital and labor, so much to industry and the home, so much of comfort, happiness and stability, must not and will not stop. It should have all the encouragement and aid the government, the state and the nation can give, and I want to say to these business men, Mr. Mallery largely in the lead, if they will come to Congress with a concrete proposal based upon their experience and their intimate knowledge of the problem and tell us the way to solve it, I think an agreement can be reached. If they will work out this concrete proposition we will work out the legislative part of it.

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A FEDERAL DEPARTMENT OF PUBLIC WORKS AND DOMAIN:

Its Planning, Activities and Influence in Leveling the Business Cycle

L. W. WALLACE

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THE organization of the Federal Government has grown to large proportions. No one anticipated its growth either as to size or ramifications, consequently there has been no design or plan by which its development has been guided. It is not surprising therefore to find that the organization is a hodge-podge; that there is overlapping, duplication and even incongruity. A study of the contractual relationships of the Federal Government has disclosed that there are over three hundred statutes relating to the same; that many of the best and most reliable dispensers of materials, equipment and services do not bid for government business because of the nuisances and delays attached to such business; that many who do bid add twenty to twenty-five per cent to their estimate to provide for the losses which experience has demonstrated are attached to doing business with the government.

The three hundred statutes conflict in many instances. So inconsistent are they that should the Secretary of one department execute a contract identical with one of the Secretary of another department, the latter would be fully within the pale of the law whereas the former would be liable to a congressional investigation and prosecution. Fortunately this situation is being corrected. Situations of a similar character in other directions are as bad and are not being corrected.

That the Federal Government should be reorganized is recognized both within and without official circles. In recent years official studies have been made but attempts at reorganization have been of no avail. In our judgment a wholesale reorganization can not be accomplished. It would involve too many interests, the accumulated resistance of which would defeat any well considered effort. The only hope of improve-

ment is through piecemeal efforts. By executive order President Coolidge has brought about some helpful changes such as the transfer of the Bureau of Mines and the Patent Office from the Department of the Interior to the Department of Commerce.

As early as 1881 the engineers of the United States realized that the public works functions of the Federal Government were badly organized. In that year the American Society of Civil Engineers passed a resolution favoring the formation of a Federal Department of Public Works, wherein would be concentrated all of the architectural, constructional and engineering work of a non-military character directed by the Federal Government. At intervals since 1881 the architectural, construction and engineering groups have jointly endeavored to secure such an alignment of the public works functions. Some three years ago these groups again started a movement in this direction. The American Engineering Council was selected as the agency through which the work should be conducted. This Council is now actively pursuing the matter. Some months ago the Council appointed a committee¹ composed of experienced and influential management engineers to make a thorough study of the situation and to draft a proposal of the best possible organization to set up. The report of this committee is one of the most thorough and constructive statements that has been prepared on the subject. In the closing days of the last session of Congress, Congressman Wyant of Pennsylvania introduced a bill proposing a Federal Department of Public Works and Domain, which department would supersede the Department of the Interior. When Congressman Wyant introduced the bill he made an address in advocacy thereof and obtained permission to print the engineers' report in the *Congressional Record*.²

The report shows that there is only slight provision for co-

¹ This Committee was composed of E. O. Griffenhagen, Chairman, Griffenhagen & Associates (Ltd.); Wallace Clark, Industrial Engineer; John Price Jackson, New York Edison Co.; J. L. Jacobs, J. L. Jacobs & Co.; Elwood Mead, Director of Reclamation; Sanford E. Thompson, The Thompson & Lichtner Co. (Inc.); W. F. Willoughby, Institute for Government Research.

² 69th Congress, Second Session, Dept. of Public Works and Domain, Extension of Remarks of Hon. Adam M. Wyant, House of Representatives, March 3, 1927.

ordination of the engineering functions of the Federal Government. These functions are now distributed among ten executive departments and independent agencies and thirty-six bureaus, offices or commissions. The Wyant Bill contemplates placing all of the public works functions in a functionalized Department of Public Works and Domain. Thus the public works and domain functions, instead of being directed by thirty-six Bureau Chiefs in ten Cabinet offices or Commissions, would be concentrated in seven bureaus within the proposed new department. The seven bureaus would be the Bureau of Architecture and Public Buildings, taking over the Supervising Architect's Office from the Treasury Department; the Bureau of Waterways and Ports, taking over the civil functions of the Army Engineer Corps and similar functions from other departments; the Bureau of Public Roads, as it now exists in the Department of Agriculture except the Rural Engineering Division; the Bureau of Geological Survey, taking over all geological and mapping work in the Federal Government; the Bureau of Reclamation and Power, taking over the Bureau of Reclamation and the Federal Power Commission.

The Public Domain bureaus would care for the National Parks, the General Land Office, Indian Affairs, etc. It is further proposed that a Bureau of Utilities be later organized for the administration of such government-owned utilities as telephone and cable lines, the inland waterways service and others.

This engineering report proposes that the functions of these bureaus, where transferred, should be reorganized in accordance with well established principles of organization, which may be summarized as follows:—

First: The allocation of functions and activities to the major branches of the Department of Public Works and Domain should be along natural lines, conforming to operating requirements, and bringing together into the same bureau those activities that relate to the same subject matter and can be handled by the same staff and plant.

Second: There should be strong, unifying, central control and direction to insure coordination and continuous cooperation. The exacting policy-making functions of the department head as a member of the Cabinet should not be under-

estimated, and ample provision for deputizing executive authority should be made.

Third: Responsibility for each function and commensurate authority, both original and delegated, should be definitely and positively placed throughout the organization.

Fourth: The plan of delegation of authority should provide for a progressive separation of executive and routine functions and should limit the number of officers at any point in the scale of authority to the number that can be adequately directed and supervised by the official in the next higher rank.

Fifth: The service functions in any unit of organization—that is, those things that must be done to make it possible to carry out the main purposes of the unit—should be centralized and consolidated as far as practicable. This is to say that such commonly necessary operations as purchasing, accounting, record-keeping, filing and handling supplies should each be taken care of by one office for the department, or at least, for each main operating branch, and not scattered among the various divisions.

Sixth: The objective of each unit of organization and the way to reach it with directness and efficiency should be held as of primary importance, and no dogma of form or method or fetish of uniformity should be permitted to outweigh them. In other words, the organization structure for each activity should be adapted to its particular needs and be such as is best suited for the accomplishment of the particular purpose for which it exists.

One of the most important proposals of the committee of engineers—which proposal is included in the Wyant Bill—is that there be established within the Department of Public Works and Domain a Board composed of representatives from the various bureaus. The principle duty of this Board shall be to assist the Secretary of the department to formulate a general, long-range public works program. Through the efforts of such a Board it is reasonable to expect that long-range planning of all public works will be effected even though administrations change, new policies are developed and new alignments within the government take place. This Board, under the coordinated plan encompassed in the formation of a Department of Public Works and Domain, should be able so

to project governmental construction as to have a most substantial influence in leveling business cycles.

The potentialities of such planning are made apparent when the extent of the expenditures for Federal construction is understood. The Bureau of Public Roads is now spending, and has for some years past spent, in excess of \$75,000,000 annually for the construction of public roads. During the next fiscal year the Federal Government will spend over \$60,000,000 on river and harbor improvements. The Supervising Architect's Office alone, will erect \$165,000,000 worth of Federal buildings during the next six years, as the result of a single authorization of Congress. This money is to be expended at the rate of \$25,000,000 per annum outside of the District of Columbia and the balance of the annual allotment is to be spent in the District of Columbia. The foregoing and other large services will spend in excess of \$200,000,000 during the fiscal year ending June 30, 1928—more than three-fourths of which sum will be for construction work.

All of the contemplated expenditures referred to will be made without any consideration of the business cycle. The trend of the supply and demand for material will not be given consideration for as much as six months in advance of the need. The situation as to employment will scarcely be considered.

Undoubtedly the expenditures to be made for the erection of Federal buildings, highways, and river and harbor improvement are justified. We hold, however, that it is exceedingly unfortunate that the Federal Government has not provided means whereby a considerable amount of such appropriations could be retained until such time as business conditions became so depressed as to threaten a large degree of unemployment, then release it for public construction. An attempt was made in the last session of Congress to secure the passage of a resolution authorizing the appointment of a committee of five members of the Senate to (1) investigate the problem of the cyclical recurrence of periods of business depression and unemployment, with a view to determining the relation of the construction of public works to the stabilization of employment and industry; and (2) report, by bill or otherwise, upon methods of stabilizing employment and industry through the advance

planning of public roads projects, rivers and harbors projects, and public buildings projects, and the expansion of such works during such periods of business depression and unemployment.

This resolution was favorably reported by a Senate Committee but failed in the legislative jam at the close of the session. Riders attached to the Building Bill and the Roads Appropriation Bill were defeated. These riders proposed to provide that a certain amount of the appropriations for any given year be withheld until such time as the volume of construction done in the United States should fall twenty-five per cent below that of 1925. A provision also stated that as soon as this occurred the funds so accumulated for Federal public works should be expended for the purpose of helping to maintain business on an even keel.

In addition to approximately \$150,000,000 to be expended during the next fiscal year by the Federal Government for the construction of public works a tremendous volume of public works construction will be done by the states. According to conservative estimates the states spent between \$300,000,000 and \$500,000,000 for such purposes in 1925. The total expenditure by the Federal and state governments is a very appreciable percentage of the entire construction volume in any year. In 1925 an aggregate of \$5,000,000,000 was so spent.

The Federal Government has no control over the expenditures of the states. It is believed, however, that if the Federal Government should set an example of utilizing its expenditures for public works construction as a means of leveling the business cycle, the several states and municipalities would in time do likewise. Certainly if an appreciable amount of Federal, state and municipal expenditures for public works construction were taken off the top of a boom and placed in the trough of a depression it would materially alleviate the serious consequences of a business depression. Such a procedure would be far more sensible and wholesome in its influences than unemployment doles, or unemployment insurance, or bread lines. Such a procedure would enable public works of every kind to be constructed at a lower cost, because in periods of depression price levels are lower than in boom times. Thus the masses would secure comforts and enjoyments in a greater measure and with greater ease, as taxes need not be so high.

Even the advantages cited may not be the most valuable results of long-range planning. The mere fact that it would be known that a money reservoir of large proportions would be tapped at the first significant sign that a business depression was about to ensue would have a tremendous psychological effect. It is well known that attitude of mind has a good deal to do with the starting of a depression as well as with the depths to which it goes. We have learned such a lesson in connection with our banking system. Good banking principles demand adequate bank reserves. The Federal Reserve Bank, in addition to its actual cash reserve, imparts confidence in our national banking system by its very existence. Soon after its creation it wielded a tremendous influence in removing fear of financial difficulties.

That the remarkable possibilities of such a reserve are being recognized in high places is evident. Permit me to quote the following from an address by President Coolidge before the Associated General Contractors of America:

The idea of utilizing construction, particularly of public works, as a stabilizing factor in the business and employment situation has long been a plan of perfection among students of these problems. If in periods of great business activity the work of construction might be somewhat relaxed; and if in periods of business depression and slack employment those works might be expanded to provide occupation for workers otherwise idle, the result would be a stabilization and equalization which would moderate the alternations of employment and unemployment. This in turn would tend to favorable modification of the economic cycle. . . . The first and easiest application of such a regulation is in connection with public works; the construction program which involves public buildings, highways, public utilities, and the like. Most forms of Government construction could be handled in conformity to such a policy, once it was definitely established. . . . This applies not only to the construction activities of the Federal Government, but to those of states, counties and cities.

More than this, the economies possible under such a plan are apparent. When everybody wants to do the same thing at the same time, it becomes unduly expensive. Every element of costs, in every direction, tends to expand. These conditions reverse themselves in times of slack employment and subnormal activity, with the result that important economies are possible.

I am convinced that if the Government units would generally adopt such a policy, and if, having adopted it, they would give the fullest publicity to the resultant savings, the showing would have a compelling influence upon business generally. Quasi-public concerns, such as rail-

roads and other public utilities, and the great corporations whose requirements can be quite accurately anticipated and charted, would be impressed that their interest could be served by a like procedure.

And again we have from Secretary Hoover:

If, in the first instance, through an agency of the Central Government, we could have an adequate study and preparation of plan and method made of these problems of engineering development over the next fifty years, viewed solely in their national aspects, we would have taken the first step toward the adequate provision of an increasing standard of living and a lower cost of living for our descendants.

The second step is to determine that our Government will be a government of cooperation, limiting profits surely, but holding to individual initiative as the single hope of human development. In order that we shall have some central point in the Federal Government where these problems may be adequately considered, from which they can be ventilated for the verdict of public opinion, where the business brains of the country can be called into conference and cooperation with the Government, and therefore with the people, the engineers of the United States have proposed time and again that a cabinet department should be established in Washington, either new or to replace the Interior Department, to which should be assigned the whole question of public works.

You are familiar enough with the advantages of such a department from an everyday administration point of view, and enormous saving to the Government from the duplication or competition of the six or seven departments now engaged in engineering construction work of this character. But on this occasion I wish to call your attention to the fact that such a department has become an essential from the point of view of proper consideration and presentation to the American people of these broader national engineering problems, upon which the next generation must depend if our country is to march forward.

The pronouncements of President Coolidge and Secretary Hoover contain the essence of the motives that are actuating the architects, contractors and engineers. Their proposal that a Department of Public Works and Domain shall supersede the Department of the Interior is based upon their experience and conviction that such a reorganization of the public works functions would:—

1. Promote economy and efficiency through having functionalized public works under one department head,
2. Simplify budgeting and appropriation methods,
3. Provide clearer and more uniform methods of securing funds for public works purposes on a long-range planning basis,

4. Provide a long-range planning board which would utilize an appreciable proportion of public works construction to level the business cycle,
5. Blaze the way for similar plans and action on the part of state, county and city officials.

The Wyant Bill provides for such measures. It will be re-introduced at the first session of the 70th Congress, which will convene in December. Those groups that I have the pleasure of representing cannot within themselves achieve the goal. It is a matter of great consequence and importance to the American public. The best public policy demands that an appreciable proportion of expenditures for public works construction be used for leveling the business cycle. We therefore earnestly beseech the active aid of all persons and organizations to the end that this worthy endeavor may come to a successful issue during the 70th Congress.

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THE PLANNING OF GOVERNMENT ORGANIZATION AND EXPENDITURES TO PROMOTE BUSINESS STABILITY—WITH PARTICULAR REFER- ENCE TO STATES AND CITIES

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THE general subject for this afternoon's discussion—especially the theme assigned to me—is so worded as to call for attention to two different problems:—the planning of government organization, and the planning of government expenditures, each with reference to business stability.

These questions lie on the border between the lands of the political economist and those of the political scientist and it would be presumptuous for one in a profession which has not even an accepted name to venture more than a suggestion here and there as to how to reduce the obstacles standing in the way of effective government cooperation in the stabilization of business health and how to improve the government structure to make it possible to control public acts in the interest of business stability.

Before attempting to discuss either the problem of organization structure or of financial policy, we should consider for a moment what the functions and responsibilities of local government are with respect to the problem of stabilization. It is probably safe to say that the government should be planned to do those things that are necessary to insure domestic tranquillity and to promote community welfare, where the things to be done require joint action by all members of the community or, by the nature of the acts involved, can be better done by formally established and mandatory cooperation than by the voluntary action of individuals or groups.

One of the things necessary to the tranquillity and welfare of society is certainly a condition of security for the working-man who is willing to work and of prosperity for the business man who shows more initiative and energy than his competitor.

But violent fluctuations in business activity, prices, earning power, and buying power dictated by the vagaries of mob psychology in times of boom or panic are as merciless in their effects as were the plagues and famines of old. They are equally harsh on the wage-earner, the manufacturer, and the merchandiser. They give advantage to the speculator and the contract-breaker. They wipe out the rewards that should come to the manager who is willing to progress by perfecting the details of his business procedure and by watching the minor wastes and leaks. They make such painstaking work seem futile.

If the government can do anything directly that cannot be done by any other agency to help prevent these recurring disasters, it surely will be strictly within its proper field, and if it can so conduct its own affairs as to help to mitigate the severity of cyclical fluctuations, it should surely do so.

Let us first review the functions that government might well assume in meeting this problem directly. We may classify the possibilities as follows:

1. *It can help business to help itself.* Notably, under this head, is the furnishing of statistical information as to conditions and trends. The government—particularly the Federal government, but to a lesser extent, the states also—is in a better position disinterestedly and effectively to collect, interpret, and issue economic information for the guidance of business than any other agency. Also whatever the government can furnish in the way of leadership and education in the promotion of stability (e. g. the work of the Department of Commerce on simplification) comes under this head.

2. *Government can put pressure on business to help itself.* Several phases of public utility control come under this head. So also in a way do such measures as compulsory unemployment insurance which, although really alleviating measures, keep the costs and dangers of over-optimism and lack of planning ever before the employer. States rather than cities have the responsibility here.

3. *Government can prevent business from hurting itself.* The outstanding possibility under this head—the control of the cost of securing credit—must be a federal rather than a local government function. Control of the issuance of securities and supervision of financial institutions are also to be included in this class. These are state functions, largely.

4. *Government can help the community to be less susceptible.* Measures under this head come closer to the field of local government but are all indirect in their bearings. They relate to a variety of objectives most of which fall into one or the other of three groups:

(a) Diversification of industries to spread the times of incidence and thus reduce the local violence of trade depressions.

(b) Vocational education of citizens and the diversification of their skill.

(c) Improvement of community facilities for doing business and consequent increase of community ability to meet depressions.

The first of these measures has been left ordinarily to business organizations. Vocational guidance and education should not inspire much confidence as a potent preventative measure. Measures in the third group can hardly be considered preventatives but are bound to reduce the violence of cyclical effects.

From this analysis it does not appear that state or local governments need take on any important additional or radically new functions for the special purpose of dealing directly with the problem of business stability. The problem of organization is not therefore a problem of organizing new and different activities but one of securing greater effectiveness and continuity in existing activities.

We are therefore right back to the general problem of efficiency in government and obviously must leave the solution of that for another day.

But we have said that we can see two ways in which government can affect our problem, first by the functions it assumes in dealing directly with the causes and effects of the cycle and second by the way it conducts its own affairs during the various stages of the cycle.

Now we are ready to consider the second, namely; how the way in which the government handles its own business and particularly how its spending policy and practices influence, or can be made to influence, the stability of business conditions. There are three aspects of government expenditures that might have a bearing. The amount of the expenditures, the

purpose of the expenditures, and the time of the expenditures. We may dispose of the first two aspects summarily. They may be taken together. Any amount economically spent for a purpose that increases the productivity or the welfare of the community is well spent, and comes right back. Any amount that goes for useless things, or that brings no return, is waste and is a burden on everyone in good times and bad. Waste in government like waste in industry, holds back the progress of civilization. It may be a cause of poor business but hardly a cause of business instability.

But if government expenditures are not constant throughout the business cycle then they will obviously have a bearing according to the amounts and times of the variations, and so we have the very logical and attractive suggestion (ably advocated by Mr. Mallery and others) that expenditures for public works be retarded in boom times and accelerated, or in fact "plumped", on the eve of a serious depression.

But before we can come to discuss the practical problem involved in thus adjusting capital expenditures, let us see what might be done with operating expenditures. It might seem at first glance as though these must necessarily be constant or on a gradual incline. While it is true that the volume of routine public business is fairly steady and that the net effect of business conditions on public operating activities is not material, still operating costs are lower in times of depression because of lower material prices and contract labor costs. Moreover there is a natural tendency to reduce expenditures in hard times to permit tax reductions.

But even beyond this natural fall in costs it would be entirely feasible to make further marked reductions through a control of the wages of the permanent staffs that call for such a large portion of our total public expenses. Attempts to establish the basis for such a control have been made in a number of jurisdictions and the machinery is fully provided for wherever the modern idea of a uniform and equitable plan of classification and compensation of public positions has been put into effect. The essence of this idea is that each position should first be analyzed and classified, each distinct kind of position appraised on the basis of duties and qualification requirements, and then a wage scale established for each kind that will be

right in relation to that prescribed for every other kind. Any change in total can thus be brought about by applying a single decision as to how far to lower or raise or telescope or extend the structure. The relationships among positions will remain right. And it would seem that a reduction of expenditures for personal services in the public service ought to be made in times of business depression.

If those in the public service will yield some income, it will, of course, mean that those more directly exposed to business storms will have to suffer that much less. That salaries and wages in the public service should be adjusted to conform to changes in the cost of living seems to call for no argument.

But let us come back to capital expenditures. The motives that make every business man want to manufacture and sell when everyone is buying and prices are rising do not control government policy. So why—the argument runs—does not the government do the other thing and offset the effects of this periodic hysteria? Why doesn't it hold back when business is active and spend when it is dull and unemployment is prevalent?

There are many strong practical reasons why the government does not do this, but only one why it may not be wise to do it. This last statement no doubt calls for prompt explanations.

If any public project is not useful it should not be carried out at any time. If it is worth while it will begin to earn a return the moment it is completed. Who can say in any given case that the postponement of the investment and, in the meantime, to the loss of the benefits that are to come will not outweigh the desirable effect that this postponement will have on the business cycle. The daily answer from our hard-pressed city and state officials seems to be that it will. At least, hospitals, roads, sewage-disposal plants, street lights, and all the needs of our modern life are being supplied as rapidly as money can be secured.

But let us assume that some one with the courage to answer this question has answered it for us and we are now sure that part of our resources for capital expenditures should be reserved in prosperous times regardless of the need for the facilities they would buy, and released when those times threaten to come to an end. What are the practical difficulties? They

cannot be better stated than they have been by Feldman in his *Regularization of Employment*. He summarizes them as due to "inefficiency of governmental machinery, lack of continuity of policy, and inherent indisposition to plan." He might well have added that our governmental affairs are handled by a multiplicity of interwoven and overlapping bodies and that unity of action even in a single metropolitan area is exceedingly hard to secure.

Perhaps this gloomy picture may be brightened a bit by a few suggestions that hold out hope for constructive progress. Let us see what we need, to overcome these difficulties and provide for long-range planning and a spending policy that at least will not aggravate the tendency to business instability. We need in each governmental body:

1. A centralization of control for each major function or group of functions. There should be a grouping into departments of all educational activities and institutions, all charitable and correctional institutions, all public works, in each case under a single administrative head.
2. A permanent body of technically equipped specialists in control of planning and operating.
3. A single agency charged with responsibility for considering the financial needs of all departments and activities present and prospective.
4. A budget system in all of its implications. This presupposes elimination of such restrictions as special funds, the ear-marking of certain revenues for certain purposes, and statutory salaries. It also assumes collection of all revenues into one pool available for any expenditure according to plan.
5. A central administrative authority with power to initiate and act.

It hardly needs to be said that such a set-up will make long-range planning and a stabilizing policy of government expenditures not only possible but inevitable. Let us see how.

Each department (be it a state department of roads or of charities and corrections or a city department of bridges or of fire) will consider the needs of its physical plant for years to come and plan, design, and estimate its construction well ahead. Each time when appropriations are up it will forward its whole program to the budget agency.

The budget agency will assemble the proposals coming from all departments and will advise with the department heads and the administrative head of the state or city as to the wisest allotment of revenues and resources in view of the relative importance of the various projects and of business conditions present and prospective. The statistical work of the national and state departments of commerce will have been perfected to the point where a clear picture of existing business conditions and a definite indication of the trend will be available for the financial and administrative officers.

The suggestions of the budget agency, when approved by the executive, will be transmitted to the appropriating body and left to its tender mercies. But as the idea of the budget becomes better understood, there is less and less tendency on the part of the legislative bodies to make any material changes in the plans thus submitted.

A few words should be said with regard to the method of authorizing the capital expenditures that the administration is to be permitted to defer until in its judgment the time is right to make them. In this connection two suggestions have been made: one, that the future issuance and sale of bonds be authorized: the other, that a reserve be set up, presumably in cash to be earmarked and laid aside. Without going into a detailed discussion of the advantages and disadvantages of the bond issue as against the pay-as-you-go plan, it may be said that there is no reason why a clause cannot be attached to the appropriation made in any one year, providing that the expenditures under such appropriation need not be made until the executive finds it desirable in his discretion to make them. Or, if this is not considered sufficient, the legislature can attach a provision that the expenditure should not be made until the executive, acting on the advice of a specified agency, finds that business conditions and the indications of a probable approach of a period of depression make such expenditures desirable.

Under conditions which provide for a pooling of all resources and revenues of the state or city, any appropriation of this kind remaining unexpended for a time will be represented merely by an appropriation incumbrance on whatever current assets there may be rather than a physical segregation of assets into a special fund.

The conclusions to be drawn from this analysis of the requirements that must be met to put a public body into a position where it may plan and control its expenditures with relation to business conditions, is that the *same* simplification and directness in government organization and procedure are needed as are required to bring about effectiveness in public administration in general.

It is possible to paint a very discouraging picture of the existing weaknesses in our government structure and procedure and of the long road that must be traveled to provide these prerequisites of good administration, but when we consider how far we have gone in the last twenty years toward these very objectives, we need not feel any discouragement whatsoever. Most cities have simplified their departmental organization (although the problem of consolidating government agencies in metropolitan areas is only now being seriously attacked.) Many states have been reorganizing along functional lines as suggested in these remarks. Practically every state and city has a budget system in some form. The idea of the short ballot and the elimination of constitutional restrictions is meeting with favor. The progress of the civil service idea is making for permanent and competent technical staffs in the government service.

Mention should also be made of the great improvement that has taken place in recent years in treasury administration which has a distinct bearing on the main subject of this discussion. The old system of holding cash in treasury vaults has largely been abandoned and the sums so tied up have been restored through the banks to the channels of trade.

Moreover the tendency in most governmental bodies is towards centralization of treasury transactions, but a great deal yet remains to be accomplished. In the selection of depository banks and the allocations of cash to active bank accounts, time deposits, and deposits subjected to withdrawal on notice, and in the stabilization of state deposits, the treasury can assist in the stabilization of business conditions. If deposits are distributed because of political expediency and if sudden ill-timed withdrawals of large sums are made from small country banks havoc can be wrought with local business. On the other hand, it is possible to work out allocations of deposits to banks that will assist them in meeting seasonal demands.

In closing, let us summarize some original data on this subject, many of them furnished by the busy officials of a number of our states and cities—in most cases from the Governors and Mayors themselves—who have been interested enough or courteous enough to furnish information as to what has been done or attempted in their jurisdictions with respect to some of the measures we have been discussing.

On the question of what has been done to expand construction at times of unemployment and business depression or to restrict it in boom times, the practice in 31 states seems to be as follows:

Twenty-two do nothing.

Three have made attempts to adjust construction in a measure—two in road construction and one in after-war construction.

One says that more construction is naturally done in hard times because bids are low.

Two have made it the policy, although there is no formal procedure for it, and no reserve set up.

One of these states is Massachusetts and refers to statistics proving that the volume of work has varied inversely as business prosperity has varied. This, it should be noted, is a state that has a clean-cut functional organization of departments, a central financial agency (the Commission on Administration and Finance), good budget habits, and wise executive direction, in fact, most of the requisites enumerated in the foregoing remarks.

Three states, Pennsylvania, California, and Wisconsin, have legislation on the subject. But there seems to be a note of skepticism in the comments of the officials in each case. Pennsylvania says that the initial \$40,000 appropriated in 1917 was spent in 1921 and "no other effort has been made". Wisconsin says, "there has been a theoretical effort to expand state construction during periods of unemployment... however, the construction work is carried on in specific projects authorized by the legislature biennially." Wisconsin, referring to its law, says, "There are those who think that a finance and construction program covering a period of years would have to be provided for before this law would be effective."

In nineteen large cities the practice in this same connection is that:

Eight do nothing.

Two try to provide employment in winter.

Four expand construction in dull times but do not restrict it, consciously, in boom times.

Five say they do conform to business conditions and cite examples of their action during the recent depression to prove it.

Not one of 31 states and 19 large cities covered by this summary has any systematic policy or plan for the adjustment of operating expenses or the salaries of permanent staffs with relation to the development of the business cycle. Most of them pointed out that salaries had been raised to meet the higher cost-of-living levels since the war, but none recalled any revision downward. St. Paul, as you may know, has been making periodic increases according to changes in a cost-of-living index and says the test will come when the index points downward.

An analysis was also made of the attitude of these same states or cities toward the desirability of diversifying the industries upon which their citizens are dependent and thus making their communities less liable to a slump that would hit nearly everyone at the same time. It developed that this idea has not been given any serious consideration. About eighty per cent of them leave to chambers of commerce the work of attracting new industries. Others cite the work of certain public agencies that are charged with the dissemination of information regarding local resources and advantages for the purpose of increasing the general volume of local industrial activity rather than developing a balanced variety of industries.

There is nothing to be found in this analysis of a considerable body of data on the practice of our states and cities, and on their reasons for following the policy (or lack of policy) they do, to change the conclusion stated above that, so far as local governments are concerned, they will do more and more to exercise their functions and to plan their expenditures in the interests of business stability as they perfect their methods of financial and administrative control. Extraordinary measures aimed to force them to act wisely in these particular matters will probably be no more successful than would special measures to make them do the right thing in carrying out the thousand and one other responsibilities with which they are charged.

STATE AND MUNICIPAL BORROWING IN RELATION TO THE BUSINESS CYCLE

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THE term, "the business cycle", is sometimes used in a much more exact and definite sense than the facts of business history warrant. It is, none the less, a useful scientific term for designating the undoubted, even though irregular, succession of revival, prosperity, reaction, depression, and revival again, through which business passes. Some students see the whole explanation of the business cycle in the upward and downward movements of the general average of commodity prices, and see the whole explanation of the movements in the average of commodity prices in the phenomena of expanding and contracting money and bank credit. Believers in this doctrine usually look upon the business cycle as an unmitigated evil, and feel that it is possible and desirable to eliminate it by controlling the quantity of money and bank credit in such a way as to keep the level of commodity prices constant. I believe the views of this school to be unsound.

If the business cycle had a simple, single cause and if that cause were subject to control, the problem of controlling it would be very simple. But the business cycle is in fact a complex body of phenomena, growing out of a complex body of causes, and no single, simple remedy is to be found for the evils which it manifests. Moreover, the business cycle is not, by any means, an unmitigated evil, and the important thing is to prevent the extreme fluctuations rather than to try to keep industry and prices on a dead level at all times, even if this were possible. The industrial causes of the business cycle are, for the most part, more important than the causes connected with money and banking. Much could be accomplished if part of the very intense demand could be removed from the crest of the period of prosperity, when industrial capacity is over-strained and can not respond to further stimulation, and reserved for application as an energizing influence in the succeeding period of depression when the general volume of demand is lower.

There is widespread agreement among students of the problem that a great deal could be accomplished if large, long-lived institutions, including railroads, great industrial corporations, universities, colleges and churches and, above all, governmental bodies, states, cities, counties, and the Federal Government, would make far-reaching plans in connection with their construction work and in connection with that part of their buying of staples which can readily be retarded or accelerated, so that they could concentrate their purchases and construction in dull periods, and withdraw in considerable measure from the markets in periods of intense activity. The advantages to these institutions of such a policy are obvious. Their purchases and construction work would be put through more cheaply if they could pursue such a policy systematically. Their budgets would gain by such a procedure. The advantages to general business, on the other hand, of being relieved from strain at a time when production is already at maximum, and of having production encouraged at a time when there is much unemployment and dull business, would likewise be very great.

The extemporizing of public work as a remedy for unemployment, such as municipal woodyards or publicly conducted roadbuilding and the like, represents an old expedient as an alternative to poor relief. Such activities have been tried many times in our history. They have had the merit of being less pauperizing and less wasteful than outright poor relief. They have not, however, as a rule contributed very effectively to general business revival. Much more is gained when public expenditures of a kind which would have been made in any case are made *through the usual channels of trade*, rather than through publicly conducted business of an unusual emergency character. What is proposed here is not that public money be spent which would not otherwise have been spent, but rather that the spending of public money for purposes which can be deferred or anticipated be so timed that it falls chiefly in periods of depression, and is withdrawn largely from periods of intense business activity. It is proposed that such expenditure be made in the usual way, and through the usual avenues of trade and industry, so that it may have its usual effect in stimulating related trades and in quickening activity throughout the whole industrial situation.

The present paper is primarily concerned with certain aspects of the financial policies of states and municipalities which at present interfere with the application of a policy of this sort, and with suggestions as to how financial dangers which such a policy might involve can be avoided. Almost always when such a policy is undertaken by a state or municipality it is done with borrowed money. Almost always this money is borrowed on long-term bonds when construction work is to be done with it—the general principle being that the bonds issued usually have a life only slightly less than that of the life of the improvement.

When state and municipal construction is put through in regular amounts every year it is very much more likely to be paid for out of current taxes than when it is concentrated in periods of depression. There is, first, the difficulty that tax revenues are likely to be falling off in depressed periods, leaving little margin for construction work. In the second place, the current tax revenues of one year would, in any case, be inadequate to do several years' work. Is it possible for states and municipalities to apply a policy of this sort without a general increase in their aggregate indebtedness, an indebtedness which is already increasing much too rapidly? I think that it is possible, and I think that a conscious adaptation of state and municipal financial policies to this problem would also assist in holding down the general growth of public debt. The central point in the solution is to be found in a policy of rapid amortization of state and municipal borrowings. Such borrowings should be used, not to increase the aggregate of state and municipal expenditure, but rather to give flexibility to the financial program, and to permit concentrated expenditure at the most appropriate times.

The larger municipalities in the United States have, as a rule, a great deal more flexibility in handling their public finances than the states themselves have. There is frequently more continuity in the policies of city governments than is to be found in the policies of state governments. Changing administrations and successive legislatures all too frequently reverse the policies of their predecessors, or even more frequently ignore them and proceed without reference to the accumulated experience of their predecessors.

Unpleasant experience in earlier generations in connection with state borrowing has led, in many cases, to rigorous constitutional restrictions on further borrowing by the states. This is especially true of certain of the Southern states whose credit was abused during the Reconstruction Period and which, after the Reconstruction, inserted in their constitutions very drastic restrictions on further borrowing. Frequently a special referendum to the people of the state is necessary before a bond issue can be floated. State legislatures are thus, as a rule, quite unable to make an effective and intelligent use of the credit of the state in the orderly handling of public expenditure.

The philosophy lying behind these restrictions is partly political and partly financial. The political arguments, as frequently stated, are that legislatures can not be trusted to be economical, that the pressure of particular interests seeking state appropriations is exceedingly strong, that log-rolling in legislatures is inevitable, that the legislature will spend, wisely or unwisely, all the money available to it. When it has only the proceeds of taxes to spend the political check is fairly easy, since taxpayers will resent excessive tax burdens and will put adequate pressure upon the legislature to hold expenditure down. When, however, the legislature has free access to borrowing, the taxpayer does not immediately feel the burden and is less vigilant, and the total expenditure of the state will mount rapidly.

The financial argument is that the state should live within its income. State expenditure is primarily for communal consumption rather than for further production. If the state borrows it diverts capital to consumption purposes, reducing the capital fund available for industry. Public borrowing cannot create new capital. It can only divert existing capital from other uses. Moreover, if the state engages in borrowing in ordinary times it may find its credit impaired when great emergencies arise which make large borrowing highly essential even if not vital to its existence. It is held that the state should pay as it goes, should live within its income and should not undertake current expenditures or construction which exceed the present ability of its taxpayers to meet.

There has been a great deal of unfortunate political ex-

perience to justify the political arguments above outlined. Restrictions on the legislatures do prevent bad legislatures or careless legislatures from engaging in a great deal of extravagance. On the other hand, they make it difficult for an intelligent administration and an intelligent legislature to deal efficiently with the affairs of the state. Probably we shall need to introduce into our state governments a sound, unified budget system, and observe its operations for a time, before the American people will be willing to give much discretion to their state legislatures in the matter of public borrowing.

But the principle of pay-as-you-go, rigorously interpreted, involves a loss of flexibility in public expenditure. There are two major reasons which will justify short-term borrowing, even by a well developed state with abundant capital.

The first has already been indicated. If state expenditure for construction and other purposes is to be concentrated in periods of depression, the state must spend more in certain years than it collects in taxes in those years. It must ordinarily borrow for this purpose. If the borrowing follow the conventional line with an amortization period approximately as long as the life of the improvements to be made, public debt will inevitably grow. If, however, the amortization period is brief, say approximately the length of an average business cycle—six or seven years—then the effect of the borrowing is primarily to give flexibility to public expenditure rather than to increase public debt, and to increase the total of public expenditure.

A second major reason for relatively short-term borrowing as a modification of the strict pay-as-you-go policy, is to be found in the point raised by Governor Smith with reference to the excessive difficulties of systematic, well ordered state construction work if it must be done solely out of current taxes. The Governor has instanced public works which ought to have been put through in a year or two at the most and which would have been put through in that time if funds had been available, which have been delayed six or seven or eight years, when the effort has been made to pay for them out of taxes, because of the inability of the legislature to make adequate appropriations in any one year to enable a full year's work to be done. Under these conditions work done may deteriorate

before the finishing touches are put upon it and the meeting of pressing needs may be deferred very much too long. Here again, short-term borrowing would be economical and justified. If the work could be done out of taxes in seven or eight years, then the state would be justified in borrowing the money to do it promptly on an amortization basis of say eight or nine years.

What is really called for is that the state should have an effective fund of working capital, so that it can concentrate expenditures, otherwise spread through several years, into a period of one or two years. It would be particularly desirable, of course, that it should concentrate these expenditures in periods of depression when construction can be done most cheaply and when public expenditure will benefit the general business situation.

The desirable policy would be a policy of rapid amortization and reissue. The state should have a revolving fund of credit. It should seek to maintain a reserve of bond-issuing power. It should use its borrowing power, not for the purpose of increasing its total expenditure over a period of seven or eight years, but rather for the purpose of concentrating parts of its expenditure in short periods when unusual expenses are necessary in the interests of economy, or when depressed business conditions make such concentration of expenditure a helpful stimulus to business.

Our states might very well indeed make use of the proceeds of inheritance taxes as a means of building up a revolving fund of capital. The tax on inheritance is a tax on accumulated capital. When the proceeds of such a tax are spent for current purposes it represents the conversion of capital into income, and the dissipation of capital. It is eminently desirable that as far as possible the proceeds of inheritance taxes should be used for capital purposes.

A rich agricultural county in one of the border states of the South, which had unfortunate experiences in connection with bond issues in the period following the Civil War, needed a new court house. A bond issue for building it was several times proposed to the voters of the county, being overwhelmingly defeated on each occasion. The amount called for was not great in proportion to the wealth of the county, and the pro-

posal was finally made that a special tax levy for three years be made which would put the county in possession of the necessary funds. This proposal was adopted by a very large and enthusiastic majority and the court house was built. There are many communities where a measure of this sort is perfectly feasible. A special tax levy of two or three years, on the other hand, might easily involve so large an increase in taxation for a short time as to be seriously inconvenient and the state, county or city might well be advised to engage in moderate borrowing with a view to avoiding sharp variations in the tax rates.

Taxes are important elements in business calculations. Sharp variations from year to year in the rate of taxes are disturbing to business. Public bodies may well be justified in paying interest for eight or ten years and, consequently, collecting more taxes in an eight or ten year period than they would otherwise collect, in order to avoid unduly high taxes during the first two or three years. Public borrowing in a well-developed community is primarily to be justified by considerations of this sort.

Long-term state and municipal borrowing, running for forty or fifty years, is ordinarily to be justified only in two cases, (a) where the borrowing is for a commercially productive use, as for municipally owned public utilities, and (b) in relatively undeveloped communities where natural resources are great, where the prospects of rapid growth are good, where local capital is inadequate and local interest rates are high. The State of New York as a whole should not engage in long-time borrowing. Individual municipalities within the State of New York, however, may well be justified in such borrowing under special circumstances. The City of New York, which must ordinarily build a new schoolhouse a year, should pay for such construction out of current taxes, or at all events, with short-term borrowing in anticipation of taxes. A small municipality, building a new high school, which will not have to be duplicated for twenty-five or thirty years, may be justified in a relatively long-term bond for such a purpose in order to avoid a too sharp temporary increase in local tax rates. Sweeping general rules are difficult to lay down and are subject to many exceptions when the special circumstances are studied. Two main principles, however, are clear. (1) Public borrowing

should not be permitted to ease off the pressure on current taxes in such a way as to permit new extravagances in current expenditure. (2) Public borrowing is primarily useful for the purpose of permitting flexibility in public expenditure, so that relatively large expenditures may be concentrated in short periods of time to be offset by reduced expenditures in other—preferably preceding—periods.

Certain changes in procedure in connection with the expenditure of public moneys would be necessary in most of our states in order to time the expenditure of funds for construction purposes in such a way as to concentrate them in periods of depression. The legislature, meeting annually and sometimes biennially, could not itself direct such expenditures. The legislature, on the other hand, would of course be reluctant, even if the constitution permitted it, to surrender its power of appropriation and control to administrative boards or executive officers. It should not involve, however, a wide departure from existing constitutional procedure for the legislature to authorize construction and to make appropriations out of the future proceeds of bond sales, leaving it to a board of the executive officers of the state to determine the precise time when the bonds should be issued and the construction undertaken. Such a board should be required to justify its course by a subsequent report to the legislature in which it would present evidence based on figures for unemployment, commodity prices and other relevant *indicia* of prosperity or depression. In connection with this each state might well develop a body of statistical reports bearing on industrial conditions within its own borders—as the State of New York has already done in connection with employment figures.

Perhaps the most essential point in connection with the sound application of the policy of concentrating state and municipal construction in periods of depression is that this policy be definitely held in mind and firmly adhered to in periods of prosperity, and that reserves be accumulated in prosperous times, so that they may be available in times of depression. Borrowing should be held to an absolute minimum during prosperous times, so that it may be greatly expanded when depression comes. If the policy is thought of only—as is usually the case—in times of depression, then it is almost inevitable that public debt will grow faster than it should.

DISCUSSION¹

MR. WALLACE CLARK (Consulting Management Engineer, New York):—Mr Wallace has pointed out many of the advantages of the proposed Department of Public Works and Domain. The establishment of such a department will bring about a mobilization of engineering personnel and equipment which can accomplish results unattainable with the present scattered organization. Such a consolidation would also make possible extensive economies in overhead, similar to those achieved by the various large industrial consolidations of the last decade.

One of the important reasons for this proposed department is to put idle equipment to work. There are now thirteen separate governmental bureaus building roads. The Engineers' Corps handles improvements of rivers and harbors, while other commissions and bureaus do similar work. As there is a duplication of construction equipment and there are long periods when it is not used, the interest, depreciation and deterioration of idle equipment is a heavy drain on the taxpayer's pocket.

Even more severe than this drain on the taxpayer is that on private industry resulting from the idleness of its machines.

We have heard this afternoon from Mr. Griffenhagen² and Mr. Wallace³ how government expenditures can be used to avoid the extreme depressions of business which periodically increase the idleness of equipment. However, this will not affect the idleness of machines under normal business conditions.

Paper-making is one of the best organized industries of this country. In a report of the fine paper industry⁴ for the year

¹The informal discussion following the addresses and papers by Mr. L. W. Wallace, Mr. E. O. Griffenhagen, Dr. Benjamin M. Anderson, Jr., at the Afternoon Session of the Conference, is here reproduced in large part, with some abbreviation and omission of platform amenities.—Ed.

²Cf. *supra*, p. III.

³Cf. *supra*, p. 102.

⁴*Paper Trade Journal*, February 24, 1927, p. 76.

1926 the idleness of these machines is shown to have been seventeen per cent. Since 1920 it has varied from fourteen to thirty-seven per cent. This is probably one of the best records in American industry, for the data have been kept for several years and have focused the attention of these managers on the importance of keeping their machines running.

If an industry so well organized runs its machines only eighty-three per cent of the time, what is the record of the average industry? In my work as an engineer I have had records kept in a number of plants in different industries and have found that the majority actually ran their machines only about forty to sixty per cent of the time. The reasons for idleness can be roughly classified as follows: lack of material; lack of tools; lack of power; repairs; lack of help; lack of orders. This last reason, lack of orders or sales, is usually accountable for seventy-five to eighty per cent of the idleness.

Many of the published statements are misleading as to the percentage of capacity at which certain industries are running, for they include only capacity unused due to sales. In actual practice, when sales approach the real capacity of a plant, the other reasons for idleness, such as repairs, lack of tools, etc., disappear, for they are taken care of outside of the regular working hours. The actual capacity is thus much greater than is indicated by the usual routine reports.

There are comparatively few plants in which dependable records have been kept and therefore the full extent of idleness of producing equipment in this country is unknown. However, the indications are that our machines on the average do not run more than fifty to sixty per cent of the time.

This is a heavy burden on industry, for the interest on the investment in buildings and equipment, the depreciation, supervision and other costs of keeping the plant ready for work go on at the same rate whether machines run or not. Every machine that runs has to bear the expense of maintaining another machine that stands idle. Idle machines reduce and sometimes eliminate the margin of profit.

It is not so difficult as might be supposed to secure dependable records of unused capacity; in fact it would be possible by accurate charting methods covering only one month's time to ascertain the amount of idleness in any American industry.

One of the major problems of American industry is to determine whether to reduce productive capacity until it matches effective demand for goods, or to increase the purchasing power of consumers to keep pace with a productive capacity that is constantly growing. The American standard of living is now the highest ever recorded for any nation, but it should be raised to a level far higher. Our present living standard, as reflected in consumption of goods, will have to be increased by at least one-third in order to absorb the normal unused margin of American industrial capacity. To the engineering mind the solution of this problem inevitably lies in the increasing of purchasing power, for it is inconceivable that the expansion of American industry can be arrested.

MR. OTTO T. MALLERY (Philadelphia, Pa.): The previous speakers have advocated the principle of long-range planning of public works for the purpose of stabilizing business.

We may agree on the principle but still require agreement on the right method. Mr. Griffenhagen has done us a good service by pointing out that so far as known no city or state has adopted any practical method of creating a prosperity reserve of public works. What is most needed at this time is research on method, not only in one city but in many. I hope there are within sound of my voice several economists or business men or students who will undertake to find out what method would be practicable each in his own city.

These are some of the questions which will come up:

1. Is it practicable for a city administration, upon taking power, to lay out the public works program for its whole tenure of office, say four years?
2. What are the obstacles and motives which might deter the administration from being willing to do less than one-quarter in any year until a depression comes and then try to finish the whole program during the depression?

Can these motives and obstacles be overcome by a clearer understanding of the value of such a policy on the part of the Chamber of Commerce or a similar organization and the exertion of influence by it upon the city authorities?

3. Can a certain portion of the borrowing power of the city be reserved for use during a depression? At present there is a tendency during periods of prosperity to sell bonds of the

city so rapidly, as real estate valuations rise, that little remains when real estate valuations stand still during a depression.

4. What should the signal be for releasing the prosperity reserve and undertaking public work vigorously during a depression? Would it be a good yardstick to use the volume of contracts for new construction let in the United States and release the reserve when this volume falls off for a period of three months one-quarter below the corresponding three months of 1926? The merit of this yardstick would seem to be the ease with which the fact can be known. Moreover anyone can see that the falling-off in general construction can be met in part by an increase in public construction. The thought is that if the federal government should first adopt this principle of a prosperity reserve and use this yardstick, the signal would be transmitted rapidly over the country. All those cities which had prosperity reserves would then release them.

This program avoids the problem of postponing public works of immediate necessity. It avoids laying aside funds out of annual appropriations to be used in future years of depression. It requires for its successful operation only the will to do so, conceived during periods of prosperity, and checking of the spendthrift impulse of exhausting the borrowing power when the skies are clear.

At least two city Chambers of Commerce are trying to apply this principle to their local administrations and will, in course of the effort, doubtless find other obstacles and ways of overcoming them. I would be very glad to act as a clearing house for all those who may undertake to help in finding a method applicable to any city.

What a comfort it would be for each of us when the next period of depression comes not to feel that all we can do is to subscribe to a soup kitchen, not to listen helplessly to the cries of suffering and the threats of the desperate; but to be able instead to sit back in a comfortable chair, smoke a good cigar, and feel that advance preparation had been made by our efforts in creating prosperity reserves of public work against human suffering and economic waste.

MR. H. R. WOODS (of the Associates for Government Service): Stability in industry and a great saving in cost of

supplies both by state, county and city institutions can be aided by organized central purchase. Yearly individual and separate local purchases of these institutions total \$1,000,000,000. If the lowest price that one of ten institutions pays for any given article be obtained for the other nine, a material saving for all is obtained; but if a saving can be secured on the price the lowest of the ten pays, a greater saving can be obtained for all.

My long identification with the textile business shows me that in staple lines the question of profit or loss for the whole year is dependent upon wise purchase of raw materials. The individual purchasing agent of such institutions cannot be expected to have technical knowledge of all the various supplies he must obtain.

Forty-three states and thirty-eight principal cities have already centralized their purchases.

The program of the Associates for Government Service is to centralize all these purchases through a distribution to all purchasing agents of its sales catalogue of certified commodities. With such a volume of business to place, a saving carefully estimated as at least ten per cent can surely be obtained and stability of industry aided by long-time contracts placed for articles in constant need. The carefully selected dates for contract delivery secure lowest prices and aid industry over periods of inactivity.

A further aid to industry will be gained through an end of the prison contract system and prison-made goods now competing unfairly with free labor, used entirely in state, county and city institutions.

Mr. Mallery, in *Business Cycles and Unemployment* (McGraw, Hill Book Company, 1923, edited by the National Bureau of Economic Research), states that: "The regulation of purchases to stabilize manufacturing inevitably leads to the harnessing of the combined purchasing power of many states and cities, so that it can be used to increase production during times of unemployment."

MR. DARWIN J. MESEROLE (Brooklyn, N. Y.): My first interest in this subject was largely from the humanitarian standpoint, with regard to the man out of work, who could not get employment and who naturally, with those dependent upon

him, was sometimes starving in our times of business depression. I came to see that the stabilization of business in the times of depression that we get periodically and quite regularly in this country was so linked up with the problem of human suffering of the unemployed, that these two problems were in actuality a single problem, and it seemed to me in this country of untold natural resources, unimpaired labor power and financial resources, that there should be enough intelligence to provide what we might call continuity of employment.

We have seen this afternoon that even Federal expenditures of, say, \$100,000,000 a year, and whatever is spent by the cities and states, would be but a mere bagatelle to employ the 5,000,000 or 6,000,000 men and women who are periodically thrown out of work in this country for from six months to a year at a time. Therefore, four or five years ago a group of men and women organized themselves into the National Unemployment League, with but one simple object; simple, I say, from the standpoint of simplicity in stating it, but very difficult from the standpoint of getting it adopted by the legislatures of this country. That is, that in times of business depression the Federal and state governments should at once inaugurate great public works such as road-building, reforestation, reclamation of waste lands, the development of water power, to the extent of the need of the unemployed and of the business conditions for stabilization.

I realize that that goes considerably further than what has been outlined here this afternoon in the way of planning of public expenditures over a period of years, a decade perhaps, taking the money from the prosperous years and spending it in the bad years; but I think that we have got to go further than that, and have it stated as a general principle, that business men and the unemployed workers themselves are entitled to protection from the conditions that obtain in times of business depression in this country—in other words, that there is no possible excuse for a cessation of industry in the United States, with the untold natural resources we have, the unimpaired labor power and the financial strength. It seemed to us very simple, so simple that we introduced a very mild bill as an initial step, to the effect that a commission of three should

be appointed to blue-print the country, to see where public roads, reclamation of waste lands and reforestation could be devised so that in times of business depression this work could be inaugurated at once. That bill has not been passed yet but we hope it will be. We hope also that these bills for the long-range planning of public works, of which Mr. Mallery has been the exponent so many years, will be passed. There is room enough for them all. But our one thought has been that in public works is the solution, because there may be procured the extended purchasing power which will keep the wheels of industry going even in times of such serious business depressions as we have had twice in one decade, 1914-1915 and 1920-1921.

MR. WOODLIEF THOMAS: All this discussion worries me. I am afraid that some will take it seriously and go to Congress and ask them to refrain from doing some building which is very badly needed in Washington right now. Also, I hope that they won't stop the expenditure on public roads that we need to take care of our present prosperity, so that we can use our automobiles and so that we can develop suburban areas and build more homes and continue the prosperity that we have. I find here a surprising faith in the fact that we are going to have business depressions. I have been looking for a business depression now for three or four years and I haven't found one, and I am wondering when it is going to come. I wonder if we are going to keep our rattle-trap buildings in Washington, in which we have records that might be burned up any minute, if the buildings do not fall down first, until we have another business depression. I am in favor of continuing prosperity right now! I think that the principle is good, but there are exceptions, as Mr. Mallery pointed out, and I am wondering if this isn't an exceptional period.

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PART IV
THE FEDERAL RESERVE SYSTEM AND
BUSINESS STABILITY



WHAT THE FEDERAL RESERVE SYSTEM IS DOING TO PROMOTE BUSINESS STABILITY

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THE great temptation in dealing with the subject that has been assigned me is to overstate the case, and I want to preface what I have to say with a word as to necessary limitations. It is really premature to make a speech about what the Federal Reserve System does to stabilize business because we shall not know until about twenty years from now what the results truly are. The Federal Reserve System has had a life of twelve brief years. The major part of that life was passed in the storms of war and does not offer us true indication of what the future has to offer in normal years.

In the years since the war the operations of the Federal Reserve System have been so intermingled with other important changes in our economic structure that the untangling of the facts as to Federal Reserve operations in such a way as to draw any final conclusions is next to impossible.

This is a scientific audience. If there is one law of science, and particularly a law of the social sciences, which bears upon this discussion it is that you need many cases before you can draw a conclusion. Moreover, you need to segregate your data as far as possible. We have not enough cases, and we cannot segregate our data concerning Federal Reserve operations from various economic complications.

For example, those of you who heard the paper offered by Mr. Thomas today learned in cold facts of the change which every business man knows has taken place since the war, the change in economic processes, in per-capita production of the worker, which has constituted a real economic revolution in this country. When you have an increase in the wage-earner's purchasing power of twenty-five or thirty per cent, accompanied by a tremendous upheaval in industrial processes, partly forced as a result of wage increases, it is difficult to say whether that or some other phenomenon is the cause of our prosperity.

Again, I think you would have to look through many pages of banking history to find a period in which a bank of issue in an important country has been in the position of the Federal Reserve System, with a reserve ratio so high that it could be neglected in the determination of credit policy. It would be difficult to find another example of easy money bulwarked by such a large mass of reserves, which offers stability and a guarantee of some continuance of stability.

The unusual nature of the economic circumstances of the past few years makes one cautious in making any claims with regard to what the Federal Reserve System has done for the stability of business.

About all that we can do is observe the operations of the system and see how the machinery works. Does the machinery operate in such fashion that it looks as though it would go forward in normal years and grind out a result which will help toward business stability?

I think we might say that there are three functions of a bank of issue, as they relate to business stability in any country. The first function is to preserve the gold standard. Perhaps at some future time that may not be recognized as one of the functions of a bank of issue, but as far as our experiments have yet gone the gold standard seems our best guarantee of monetary stability. The second function is to perform fiscal operations for the government. The third is to adapt the credit and currency supply to the needs of business. Let me take those up in order, briefly.

The Federal Reserve System through the World War did preserve the gold standard in this country. We were fortunate, of course; our resources were not drained in so large a percentage as the resources of other nations. Before we entered the war we had a vast gold inflow of perhaps a billion dollars which raised our reserves to a point where they could stand a degree of strain that the reserves of no other bank of issue in the world could stand. Through the functioning of the Federal Reserve System, with this bulwark of fortune, if you will, we did remain on the gold standard throughout the war and we were the only important country engaged in the war that remained on that standard.

More broadly I take it that the function of a bank of issue

in maintaining the gold standard has a wider scope than the preservation of that standard at home. You cannot have normal gold movements and normal gold payments in one country unless you have them throughout the major countries of the world. There again I think we may say that the Federal Reserve System has played a part in the restoration of the gold standard throughout the world by extending aid to the Bank of England in the spring of 1925 and to the Bank of Belgium this past year. But more of that later.

The second point I think I need only mention, and that is the function of a bank of issue in carrying on the fiscal agency operations for the government. The instance that Mr. Case has given you¹ illustrates the type of operation which the reserve bank ordinarily carries forward from day to day, from month to month, for the government. It offers an agency through which government receipts of various types and government expenditures may be carried forward in large amounts without disturbing the money markets.

The third point of course covers a vast field and all that I can do in the moments that I have is to suggest a few of the points, a few of the things which I think may safely be said with regard to the function of the Reserve Banks in adapting the supply of currency and credit to the needs of business. The first test is the day-to-day test or the month-to-month test, and there I think the best evidence that can be introduced as to the adaptation of the flow of credit and currency to the needs of the country's business is the evidence of interest rates. There are two bits of evidence of changes in interest rate that I think most of you are familiar with. One is the change that has taken place in the seasonal movement of interest rate. There seems to be clearly a change which may safely be ascribed to the presence of the Reserve System. In the old days we had a distinct seasonal movement of interest rates which had a range of something like twenty-five per cent. Rates were low in January when the currency flowed back into the banks from the Christmas holiday trade; they rose again to a peak in March; they went down again in the summer to a low point in June, started rising in June or July, and reached their high point in October, slumped off a bit after the October

¹ Cf. *infra*, pp. 148-152.

peak of harvesting and of wholesale trade, but then were maintained substantially high throughout the balance of the year.

This wide swing in interest rates was so typical that looking over the raw figures on a chart one could easily see the movement in practically any year. It is clear that a change has taken place in that movement. Instead of having a swing in interest rates from fifteen per cent above the yearly average to ten or fifteen per cent below, we now have a swing which can only be estimated in amplitude, but a swing perhaps five per cent above the yearly average to five per cent below, or a swing of about ten per cent compared with the swing of twenty-five per cent before the Federal Reserve System was adopted.

It is easy enough to see how the Reserve System tends to diminish such interest-rate fluctuations, for the additional funds that business requires can now be secured easily through the mechanism of the Reserve System without drawing down the reserves of member banks to a point where interest rates rise sharply.

The change in rate fluctuations perhaps is not of large importance. It doesn't make much difference to most business men whether they pay four per cent for their money or five per cent; if the transaction is profitable it will be undertaken anyway. But I think the point of real significance is that the change in interest rates was an indication of a change in credit conditions. At the peak of the year in the fall when interest rates were high, the banks were less willing to lend to their customers; it was harder for the business man to get his money and was, of course, particularly difficult for those who had to borrow at that time of the year. The farmer was one of those borrowers. In ordinary years perhaps this circumstance was not important, but I think it is an interesting fact that the great financial crises of the country have frequently broken in the fall of the year at the time when this seasonal movement of rates brought them to their October peak.

Another objective test of the change that the Federal Reserve System may have made in the day-to-day and month-to-month adaptation of currency and credit to the needs of business, may be found in the call-loan rates, the most sensitive of all of our money rates. A computation covering a period of

years which we have made appears to indicate that the fluctuations in call rates have been about cut in half in their amplitude since the establishment of the Reserve System. This again is perhaps not a startling economic change, but it indicates a more stable monetary position under which the business man may be more constantly assured of getting the funds that he requires.

But now turning from those short-term movements, what can we say about the longer movements? What is the presence of the Federal Reserve System doing to the business cycle? I think the plain fact is that we do not know. Since the Federal Reserve operations became adjusted to something like normal, in say 1922, we have had a period of remarkable prosperity. If you compute the volume of trade in relation to the trend of past years or any normal line, it only dips under that line about once since 1922, and that is in the summer of 1924. So you have, as the fact in the case, a period of great prosperity. It is not safe to assume from that, however, that the Federal Reserve System is a guarantee of continued prosperity. Since 1922 we have had only one complete business cycle, beginning in 1921 and ending in the summer of 1924. There are those who will say that that was not a complete business cycle but is still continuing. And even if it be regarded as a complete cycle, one business cycle affords no conclusion as to what the Federal Reserve System is likely to do to business cycles. Since the Federal Reserve System began its more normal operations, we have simply this one example colored by a good many different circumstances, like easy money, a high reserve percentage, an industrial revolution, all of which might be expected to help in producing the favorable result which is actually taking place.

One can say this, however, that the Federal Reserve System has been conducted with a view to helping to cut down the amplitude of the business cycle. The theory that Senator Jones has propounded¹ is fairly generally accepted in the Federal Reserve System—the theory that it is part of our business to try to cut off the tops and the bottoms of some of the business cycles. When business is running at its top the thing to do is to exert the influence of the Federal Reserve

¹ Cf. *supra*, pp. 89-100.

System towards moderately firm credit conditions. When we hit the bottom, the thing to do is to try to make credit conditions a bit easier to aid in the recovery. I think if we will follow through the history of the policy of the Federal Reserve System in the past five years we will see that that theory has been generally acted upon. It is perhaps most definitely exhibited in the open market operations. We reached the bottom of a trough of a cycle in the summer of 1921 and then started up. About that time the Federal Reserve System began to purchase government securities in large amounts. With funds so obtained member banks were enabled to liquidate some of their indebtedness and found themselves able to lend somewhat more freely. As the cycle began to reach its peak in the latter part of 1922 and the early part of 1923 the movement was reversed, and the Federal Reserve System began to sell securities, making it necessary for the member banks to come in and borrow more heavily, and this condition in turn made them less ready to lend in large amounts, made them more careful of their loans, and thus helped in reducing the top of that business cycle.

At the end of 1923 business had begun to slide off, reaching its bottom in 1924. In December 1923, the Reserve Banks began the purchase of securities, and between that date and about September 15, 1924, acquired a portfolio of five hundred millions. The funds thus put into the market enabled the member banks to pay off their indebtedness, and placed them in a position to lend somewhat more freely to their customers.

Business recovery beginning in the summer of 1924 climbed rapidly to a high peak early in 1925 and the Federal Reserve System sold something like two hundred millions of securities. This action operated to increase the indebtedness of the member banks at the Reserve Banks and make them a little more cautious in their lending policy. Since that time the business movement has been pretty even and the holdings of securities of the Federal Reserve Banks have been at a pretty steady level, with the exception of one slight movement last year.

In view of these facts, while I think we cannot say that they prove that the presence of the Federal Reserve System has reduced the swings of the business cycle, we can say, I think, that its influence has been in that direction.

There is a third type of test which I want to deal with briefly, and that is the long-time test of the adjustment of credit to business. Here we encounter those much-banded words, "inflation" and "deflation." We have had a distinguished economist from the West recently asserting that the Federal Reserve System has been deflating the country in the past two years. We have had an equally distinguished economist nearer home asserting that in the past few years the Federal Reserve System has been inflating the country. I think one might safely take a compromise position and say we have been neither inflating nor deflating the country.

I wish there were time to analyze the positions taken by those economists and others, because there is a good deal of meat in their statements and they need a good deal of analysis. That would lead us afar into the problem of what price index needs to be used when you consider the relation of credit and prices; it would lead us into the problem of the relationship between the volume of credit and prices and into a good many other controversial problems; so I am going to keep discreetly away from any attempt to analyze their positions.

I do want to say this, however, that in much of the discussion too little attention has been paid to one important problem of Federal Reserve policy, and that is the gold problem. That problem has constituted, I think, the most serious problem that the Federal Reserve System has faced in the past five years and perhaps will face in the next few years. You are all familiar with the general facts. In 1921 when the world was thoroughly upset gold began to flow to the United States in a perfectly tremendous stream. In the year 1921 we gained over \$660,000,000 of gold and in 1922, 1923 and 1924, the amount each year was close to \$300,000,000. That is, in that period of four years we took in a billion and a half dollars of gold.

The economists of the world, with some few exceptions, were very definite about what would occur as the result of that gold flow. They were convinced that we would have a tremendous price inflation in this country. As a matter of fact that did not occur. There are a number of reasons, but the main reason was that at the beginning of 1921 the member banks owed the Federal System something like \$3,000,000,000 and when the gold came in and was received by the member

banks, they used most of it to pay their debts to the Federal Reserve Banks instead of for a gold inflation. The operation was not the result of some mysterious credit policy which the Federal Reserve System exercised.

That is not the whole story. While the gold flow was abated in 1924 it is still with us as a possibility. In 1924 I think one of the most important events in Federal Reserve policy took place. At the end of 1923 and moving into 1924, we were in a period of some business depression. The skies were a bit dark in this country, and the world over there was a good deal of disturbance because England was not yet back on a gold basis, and most of the other countries of the world were in great uncertainty. The Dawes Plan had not yet been concluded, although the experts were working on it. Agricultural prices were on the toboggan. That was the time when in my opinion a great man had a great idea; the man was Governor Strong and the idea was that the Federal Reserve System had a responsibility that went far beyond our domestic situation at that time alone. The idea was further that this country could never hope for a permanent groundwork of prosperity until the world was back on a gold basis, and the world could never get back on a gold basis until we helped it. One way we had to help was by making conditions here favorable to the return of the world to gold.

What happened was that the system went into the market and bought \$500,000,000 of government securities. Up until that time the interest rate in London had been steadily lower than the interest rate in New York; so that New York was attractive for funds and London was less attractive for funds and sterling was constantly depressed. As a result of a policy of putting money into the market here and enabling member banks to pay off their debt at the Reserve Banks, money was easier in New York and the interest rates crossed for the first time and New York money was cheaper than London money. That is a dangerous thing to do: when you make money easy it may produce inflation. But for the world as a whole the thing that happened was that sterling began to climb upward, that some balances moved from New York to London, that in the spring of 1925 England was able to go back on the gold standard and with her many other countries of the world; and

the groundwork was laid for the restoration of world trade to a gold basis.

We have not solved this gold problem yet. As a matter of fact, Federal Reserve credit policy moves in a narrow strip, if you will, and that strip can best be illustrated by the strip of interest rates. The London rate on ninety-day bills at the present time is $4\frac{3}{16}\%$. The time rate in New York is $4\frac{1}{2}\%$. There is a huge volume of funds of banks of issue and of other banks which may move in either direction, New York or London, depending in part upon the interest rate. If the interest rate here is forced to five per cent, I think there is little question but that you would have a continuation of the gold inflow which threatened to swamp us before and may make us a good deal of trouble again. On the other hand, if the rate here in New York is maintained moderately low relative to London, the London market will get its share of the funds and the gold flow will not come to us in tremendous volume. That movement of gold is an ever-present possibility and constitutes one of the factors to which Federal Reserve policy must give continuous attention.

Let me summarize by repeating what I said at the beginning, that it is too early to know fully what the results of the Federal Reserve policies are. We do not even know what they were in the past. I referred to the policy of 1924. The fact is that while a policy was adopted which would aid toward world recovery, there were other movements in the air, the establishment of the Dawes Plan for Germany, a business recovery in this country, and other factors tending toward the gradual recovery of world trade. We do not know how much was the effect of Federal Reserve policy and how much the effect of other forces. The data are too limited to permit final conclusions. What we can say truly, I think, is that in the day-to-day and the month-to-month operations we have evidence that the Reserve mechanism is in specific ways aiding in business stability and in the broader operations we can have hope that it will be one of many factors working toward greater business stability.

INCOME TAX PAYMENTS AND THE STABILITY OF THE MONEY MARKET

J. HERBERT CASE

Deputy Governor, Federal Reserve Bank of New York

THE Academy of Political Science has, in my judgment, performed an important service in fostering the union of the academic and the practical. The officers of the Academy are an interesting mixture of men of affairs and men of learning. The Committee which has arranged this program is composed of captains of industry and scholars. The program that we have before us this evening illustrates admirably the ideals of the Academy, for our speakers are an operating official of a huge transportation concern, a distinguished economist, and a representative of our Congress.

This feature of the organization under whose auspices we meet gives me the opportunity to say something which I have had on my mind in the last few years. As an illustration of the principles for which this organization stands, I want to take this occasion to bear testimony to the debt which the Federal Reserve Bank of New York owes to the sciences of economics and statistics.

For a good many years I have been an operating officer of some bank, and since 1917 of the Federal Reserve Bank. I think I can speak from the point of view of the operating officer, who has had no bias in favor of economics or statistics. In fact, I may confess that some years ago I should have been extremely skeptical as to the value of these sciences in practical bank operations. In the past seven or eight years, however, we have gradually developed as a part of the organization of our bank an economic and statistical service: we have tried to bring to bear upon all of our important banking problems something of the academic as well as the operating point of view. We have tried to use the tools of science in our daily operations.

The result is that we are now thoroughly committed to the maintenance of a statistical and economic service as an integral part of the bank. As an operating officer of the bank I should

find it difficult to carry through the day's transactions without the constant aid which I receive from this service.

Let me illustrate what I mean by reviewing very briefly the events of the quarterly tax period on and following March 15 last. The Government operations on any tax day involving as they do, the redemption of maturing obligations, the issuing of new ones and the collection of income taxes, and a number of related transactions, are very large and are apt to disturb the money market. But the operations this past March were unusually heavy.

Treasury transactions for the country as a whole included: the redemption of \$660,000,000 of Treasury notes, the largest maturity in some years; the issuance of two new series of certificates of indebtedness, \$170,000,000 at $3\frac{1}{8}$ per cent for six months, and \$314,000,000 at $3\frac{1}{4}$ per cent for one year; the issuance of \$1,355,000,000 of Treasury $3\frac{1}{2}$ per cent three to five year notes in exchange for a like amount of Second Converted $4\frac{1}{4}$ per cent Liberty Loan bonds, redeemed with interest to May 15, 1927; the payment of \$90,000,000 of interest; the withdrawal of \$192,000,000 of Government deposits from depository banks; and the collection of over \$500,000,000 of income taxes. The total turnover of Government funds on and about March 15 was well over three billion dollars. Much of this, particularly the collection of income taxes, was spread over a number of days and distributed about the country.

The first day of the tax period, the 15th of the month, is always the heaviest day, however, and in all such operations between one-third and one-half of all transactions takes place in New York. As a consequence, the volume of operations of the New York Reserve Bank of March 15 was one of the largest for any day in its history. The total turnover of funds on that single day, including both transactions for Treasury account and ordinary banking operations, was close to two billion dollars. This total was made up roughly as follows:

Fiscal Agency Operations

Securities redeemed	\$343,000,000
Securities exchanged	548,000,000
Subscriptions to new issues	136,000,000
Interest paid	32,000,000
Income taxes collected	8,000,000

Total \$1,067,000,000

Banking Operations

Checks and other collections	\$530,000,000
Wire transfers	243,000,000
Currency payments and receipts	28,000,000
New loans to member banks	10,000,000
Member bank loans paid	75,000,000
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Total	\$886,000,000
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Total—all operations	\$1,953,000,000
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Certain of these very large Treasury operations have no effect on the money market beyond some churning about of funds. They do not involve any gain or loss to the market. The exchange of $3\frac{1}{2}$ per cent notes for Second Liberty $4\frac{1}{4}$ s, for example, neither withdraws funds from the market nor puts funds into the market. Similarly, the issue of new certificates does not affect the money market, since these certificates are largely paid for by deposit credit to the account of the Government on the books of the subscribing banks, and there is no withdrawal of funds until the Treasury from time to time makes calls upon these deposits as it has need for funds. The Treasury operations which did exercise an important effect upon the money market were the redemption of maturing notes, the payment of interest, the call of funds from depository banks, and the collection of income taxes.

The immediate effect of Treasury operations on March 15 was to pour into the money market about 265 million dollars of funds, because payments by the Treasury to redeem maturing notes and to pay interest were immediately available, whereas the actual collection of income tax checks by the Treasury was spread over a number of days. The money market problem, in which the Federal Reserve Bank was concerned, was to prevent this huge gain in funds by the market on March 15 from upsetting the market.

When you consider the fact that the money market is so delicately poised that a loss or gain to the market of fifteen or twenty million dollars frequently makes a difference of half of one per cent in the money rate, you can well imagine that the pouring into the market of more than 250 million dollars in a single day would result in complete disorganization, unless this

huge outflow of funds were in some way absorbed. It was our responsibility in the bank to see that the money market was not completely disorganized by this huge artificial movement of funds resulting from Treasury operations.

As a basis for dealing with this problem we had available three instruments devised by our statistical department:

1. A careful analysis and explanation of previous tax day operations.
2. An estimate of the course of events on this tax day.
3. An hourly balance sheet of gains and losses to the market, which gives us a continuous picture of the changes that are taking place.

With this information at our command the problem became a comparatively simple one. The huge amount of extra funds poured into the market by the Treasury were absorbed in the five following ways:

1. Member banks in New York City allowed their reserves to run below requirements for a few days prior to March 15, so that they came to March 15 with an accumulated deficiency of 85 million dollars.
2. On March 15, banks repaid the Reserve Bank 65 million dollars of loans.
3. In addition, 18 million dollars of Federal Reserve credit was retired through decreases in holdings of bills and government securities under sales contract.
4. The Reserve Bank made a temporary sale of 63 million dollars of Government securities to several member banks.
5. Maturities of 25 million dollars of securities from the System's holdings were not replaced until the following week.

By these means the greater part of the 265 millions of excess funds was withdrawn from the market and as a consequence there was no disorganization—no serious overage of funds in the market. Money rates in the stock exchange market ruled at four per cent all day, on March 15, and only went below four per cent for a few hours on March 16; on March 17 and 18 the member banks resold to the Reserve Bank the securities they had purchased, and on March 18 they found it necessary to borrow 117 million dollars from the Reserve Bank to bring their average reserves up to requirements. Thus money conditions were maintained at a stable level during the week.

I cite this case not with any desire to take credit to ourselves for the success of the operation, but, on the contrary, to illustrate how the application of scientific method may so clarify a complicated banking situation as to indicate clearly the type of action which is required. It is an illustration of my reason for believing that much is to be gained in practical affairs by such a union of the academic and the practical, as this association stands for.

If there is hope in the future, and I believe there is, for greater stability in business, in manufacture, and in employment, for more continuous prosperity, with fewer interruptions, I believe that hope lies in a cooperative undertaking between scholarship and experience.

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